MASTER

SERVICE MANUAL

CONCERT-4000/5500/30/40/50

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KORG

1. SPECIFICATIONS

C-4000

KEYBOARD	: 88 KEYS (A0～C8) *** AE88
NUMBER OF SOUND	: 16 VOICES
TONE	: PIANO, E.PIANO, VIBES, HARPSI CHORD, ORGAN, STRINGS
EFFECT	: NO FUNCTION
RECORDER	: NO FUNCTION
CONTROL	: MIDI/TRANSPOSE (F#6～F7), SPRIT, LAYER, POWER SWITCH, VOLUME
PEDAL	: DAMPER, SOFT/SOSTENUTO
INPUT/OUTPUT	: HEADPHONES, AUX IN (L/R), AUX OUT (L/R), MIDI (IN/OUT/THRU)
MAIN AMPLIFIER	: 20W x 2
SPEAKERS	: 16cm x 2, 5.7cm x 2 (same as C-7000)
POWER CONSUMPTION	: 100V/47W, 117V/59W, 220V & 240V/65W

C-5500

KEYBOARD	: 88 KEYS (A0～C8) *** AE88
NUMBER OF SOUND	: 16 VOICES
TONE	: PIANO, E.PIANO, VIBES, HARPSI CHORD, ORGAN, STRINGS
EFFECT	: SURROUND (ROOM, STAGE, HALL)
RECORDER	: NO FUNCTION
CONTROL	: MIDI/TRANSPOSE (F#6～F7), SPRIT, LAYER, POWER SWITCH, VOLUME
PEDAL	: DAMPER, SOFT/SOSTENUTO
INPUT/OUTPUT	: HEADPHONES, AUX IN (L/R), AUX OUT (L/R), MIDI (IN/OUT/THRU)
MAIN AMPLIFIER	: 20W x 2
SPEAKERS	: 16cm x 2, 5.7cm x 2 (same as C-7000)
POWER CONSUMPTION	: 100V/47W, 117V/59W, 220V & 240V/65W

C-30

KEYBOARD	: 88 KEYS (A0～C8) *** AE88
NUMBER OF SOUND	: 16 VOICES
TONE	: PIANO, E.PIANO, VIBES, HARPSI CHORD, BASS/GUITAR, ORGAN I, ORGAN II, STRINGS
EFFECT	: SURROUND (ROOM, STAGE, HALL, ECHO), TREMOLO, CHORUS
RECORDER	: NO FUNCTION
CONTROL	: MIDI/TRANSPOSE (F#6～F7), SPRIT, LAYER, POWER SWITCH, VOLUME
PEDAL	: DAMPER, SOFT/SOSTENUTO
INPUT/OUTPUT	: HEADPHONES, AUX IN (L/R), AUX OUT (L/R), MIDI (IN/OUT/THRU)
MAIN AMPLIFIER	: 20W x 2
SPEAKERS	: 16cm x 2, 5.7cm x 2 (same as C-7000)
POWER CONSUMPTION	: 100V/47W, 117V/59W, 220V & 240V/65W

C-40

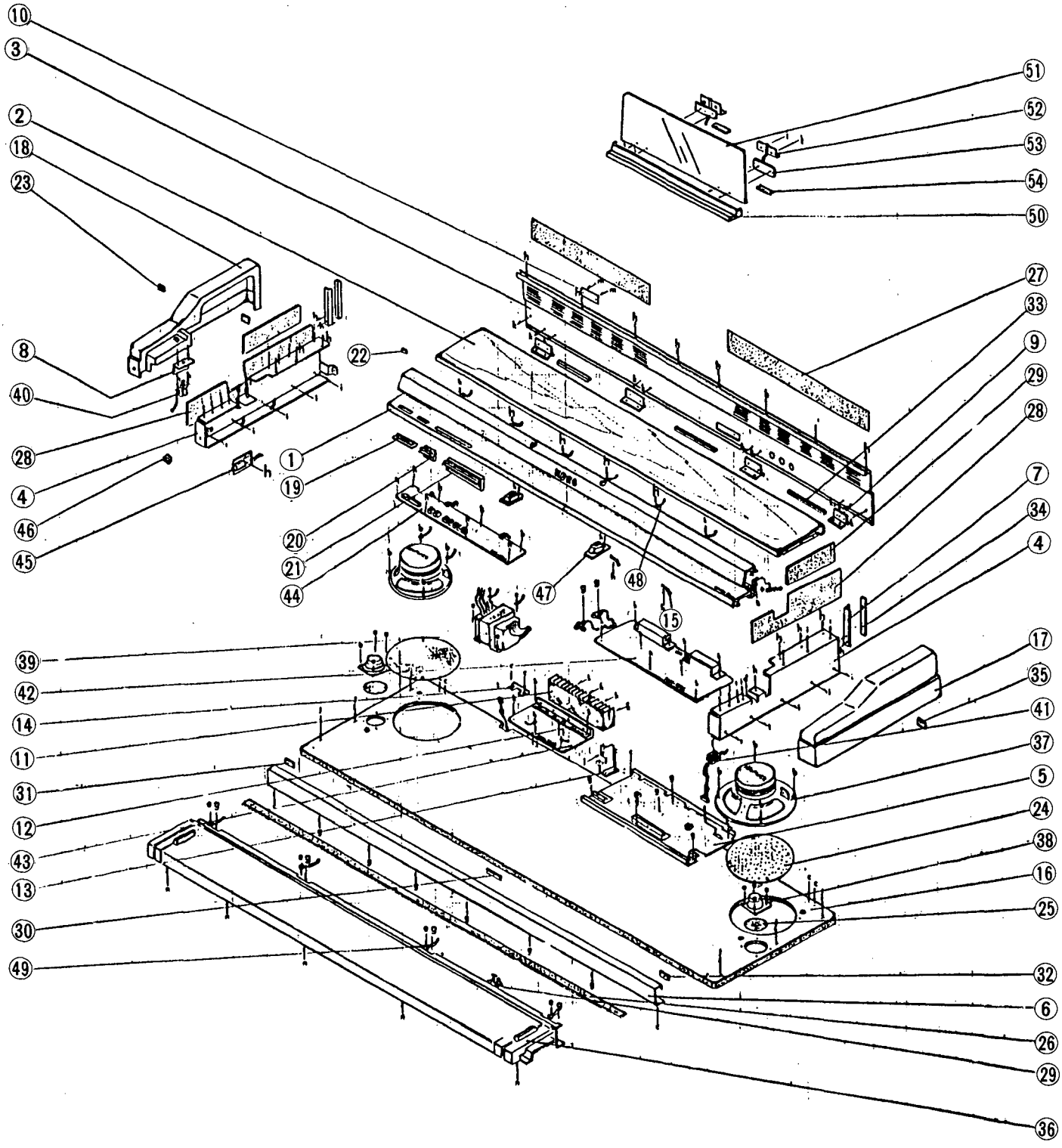
KEYBOARD	: 88 KEYS (A0～C8) *** AE88
NUMBER OF SOUND	: 16 VOICES
TONE	: PIANO, E.PIANO, VIBES, HARPSI CHORD, BASS/GUITAR/DRUMS, ORGAN I, ORGAN II, STRINGS, CHOIR, BRASS
EFFECT	: SURROUND (ROOM, STAGE, HALL, ECHO), TREMOLO, CHORUS, BRIGHT, SOFT
RECORDER	: NO FUNCTION
CONTROL	: MIDI/TRANSPOSE (F#6～F7), SPRIT, LAYER, POWER SWITCH, VOLUME
PEDAL	: DAMPER, SOFT/SOSTENUTO
INPUT/OUTPUT	: HEADPHONES, AUX IN (L/R), AUX OUT (L/R), MIDI (IN/OUT/THRU)
MAIN AMPLIFIER	: 30W x 2
SPEAKERS	: 16cm x 1, 10cm x 2, 5.4cm x 2
POWER CONSUMPTION	: 100V/90W, 117V/123W, 220V & 240V/137W

C-50

KEYBOARD	: 88 KEYS (A0～C8) *** AE88
NUMBER OF SOUND	: 32 VOICES
TONE	: PIANO I, PIANO II, E.PIANO I, E.PIANO II, VIBES, HARPSI CHORD, BASS/GUITAR/DRUMS, ORGAN I, ORGAN II, STRINGS, CHOIR, BRASS
EFFECT	: SURROUND (ROOM, STAGE, HALL, ECHO), TREMOLO, CHORUS, BRIGHT, SOFT
RECORDER	: TEMPO, TRACK 1, TRACK2, METORONOME, RECORD, RESET, START/STOP
CONTROL	: MIDI/TRANSPOSE (F#6～F7), SPRIT, LAYER, POWER SWITCH, VOLUME
PEDAL	: DAMPER, SOFT, SOSTENUTO
INPUT/OUTPUT	: HEADPHONES, AUX IN (L/R), AUX OUT (L/R), MIDI (IN/OUT/THRU)
MAIN AMPLIFIER	: 40W x 2
SPEAKERS	: 16cm x 1, 10cm x 2, 5.4cm x 2
POWER CONSUMPTION	: 100V/120W, 117V/140W, 220V & 240V/155W

2. STRUCTURAL DIAGRAM

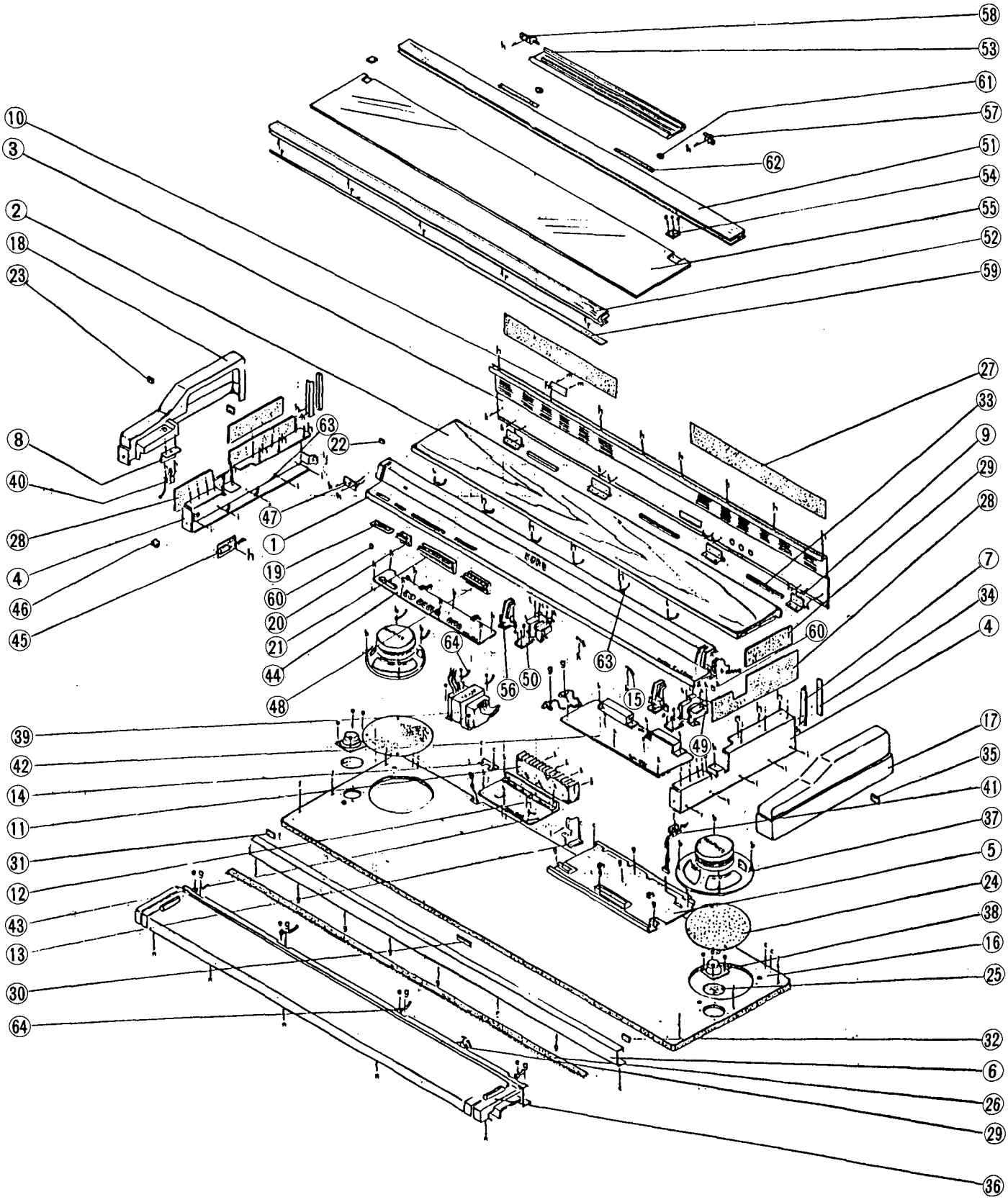
FOR C-4000



PART NO.	SCREWS	Q'TY
a	FE B ZMC 3 x 12	8
b	FE B ZMC 4 x 20	8
c	FE FEW BZMC 4 x 14	16
d	CT B ZMC 3 x 16	2
e	NRFE FEW BZMC 4 x 14	8
f	TP1 F ZMC 3 x 10	1
g	TP1 B BZMC 3 x 10	17
h	CT B ZMC 3 x 8	69
i	PLAX B BZMC 3 x 8	30
j	FE FEW BZMC 4 x 16	6
k	TP2G FEW BZMC 3 x 8	10
l	CT B ZMC 4 x 10	2
m	CT B BZMC 3 x 8	2
n	FE WSE1 BZMC 5 x 20	5

PART NO.	PART NAME	PART CODE
1	FRONT PANEL NO.7 (C-4000)	641016100
2	TOP PANEL	640086500
3	REAR PANEL	641016300
4	SIDE CHASSIS L/R	640085700/01
5	SHIELD CHASSIS NO.1	641013900
6	FRONT BAR	640085600
7	REAR PANEL SUPPORTER	640088600
8	METAL FITTING OF SW.	640082500
9	HINGE	641015000
10	NAME PLATE	---
11	HEAT SINK NO.1	560006300
12	METAL FITTING OF HEAT SINK	641013800
13	HEAT SINK ANGLE L/R	641015300/01
14	BUSHING PLATE	641016600
15	GND SPRING	---
16	BOTTOM PLATE	645013500
17	SIDE PLATE R	646025001
18	SIDE PLATE L	646025000
19	SLIDE VR FRAME	646024900
20	TACT SW. KNOB NO.8	620022600
21	TACT SW. KNOB NO.7	620018307
22	SLIDE VR KNOB	640018100
23	POWER SW. KNOB	640018200
24	SPEAKER NET (LARGE)	640086300
25	SPEAKER NET (SMALL)	640086301
26	FELT (LONG)	---
27	SLIT MASK	---
28	CUSHION NO.1 L/R	---
29	CUSHION NO.2	---
30	SPACER NO.1	---
31	CUSHION L	---
32	CUSHION R	---
33	RUBBER PLATE	---
34	PANEL SUPPORTER	---
35	CUSHION NO.3	---
36	KEYBOARD AE-88	420003801
37	SPEAKER 160FW65-44	410002500
38	SPEAKER 57FT 102-8	410002600
39	POWER TRANSFORMER TC-035	400012100
40	POWER SW.	375010400
41	DATA LINE FILTER	525000500
42	P.C.BOARD KLM-1396	001139602
43	P.C.BOARD KLM-1403	001140300
44	P.C.BOARD KLM-1411	001141100
45	P.C.BOARD KLM-1412	001141100
46	VN ZMC 4	---
47	MUSIC STAND HOLDER	646025300
48	SPIRAL CLIP CS-8	---
49	SPIRAL CLIP CS-6	---
50	MUSIC STAND BOTTOM PLATE	646025400
51	MUSIC STAND PLATE	630013500
52	MUSIC STAND PIN	640087500
53	SPACER FOR MUSIC STAND	640098400
54	FELT FOR MUSIC STAND	---

FOR C-5500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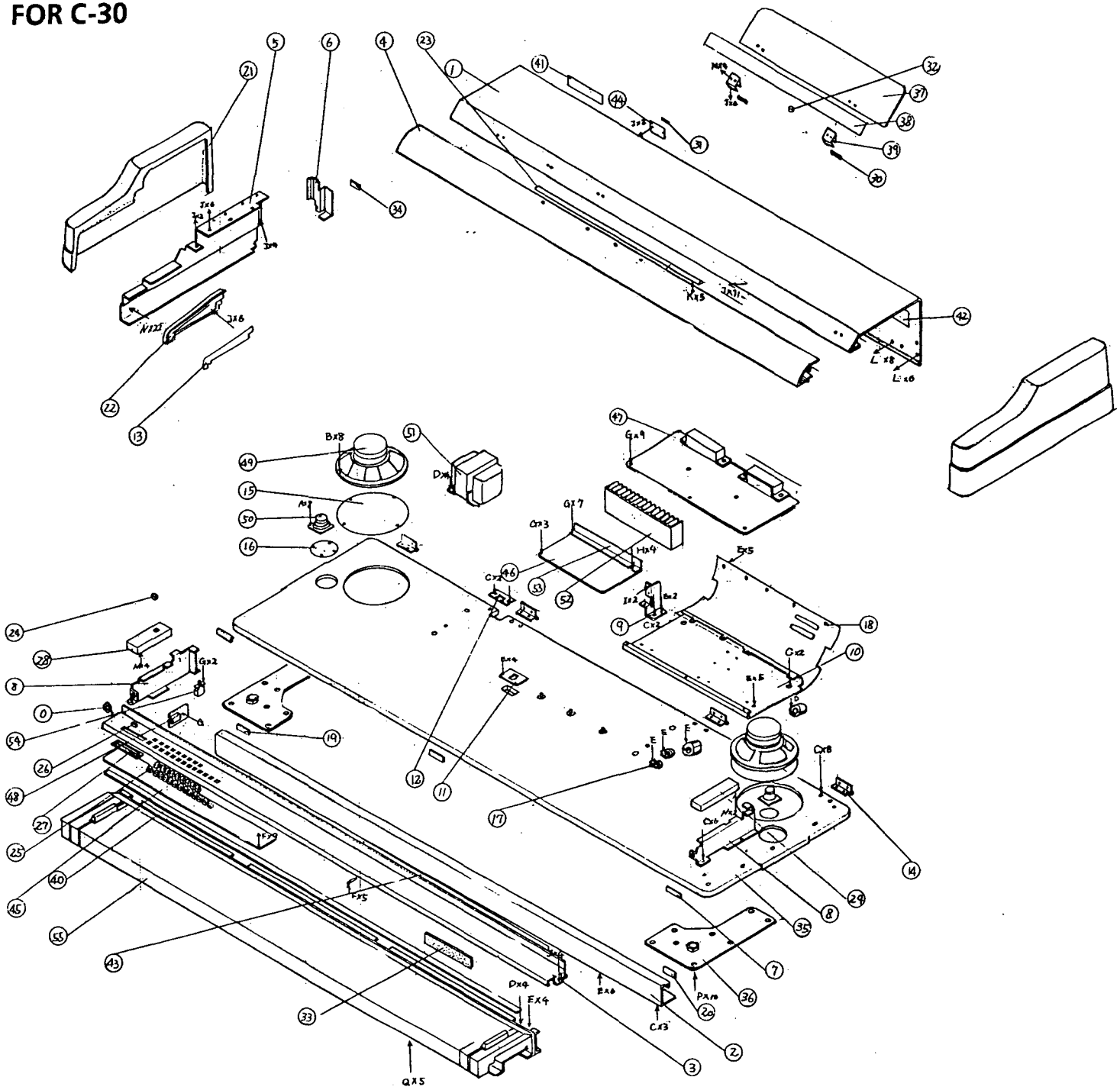
PART NO.	SCREWS	Q'TY
a	FE B ZMC 3 x 12	8
b	FE B ZMC 4 x 20	8
c	FE FEW BZMC 4 x 14	16
d	CT B ZMC 3 x 16	2
e	NRFE FEW BZMC 4 x 14	8
f	TP1 F ZMC 3 x 10	1
g	TP1 B BZMC 3 x 10	17
h	CT B ZMC 3 x 8	79
i	PLAX B BZMC 3 x 8	26
j	FE FEW BZMC 4 x 16	6
k	TP2G FEW BZMC 3 x 8	10
l	CT B ZMC 4 x 10	2
m	CT B BZMC 3 x 8	2
n	FE WSE1 BZMC 5 x 20	5
o	FE F BZMC 4 x 10	8
p	SET BZMC 3 x 6	5

PART NO.	PART NAME	PART CODE
1	FRONT PANEL NO.8 (C-5500)	641016200
2	TOP PANEL	640086500
3	REAR PANEL	641016300
4	SIDE CHASSIS L/R	640085700/01
5	SHIELD CHASSIS NO.1	641013900
6	FRONT BAR	640085600
7	REAR PANEL SUPPORTER	640088600
8	METAL FITTING OF SW.	640082500
9	HINGE	641015000
10	NAME PLATE	---------
11	HEAT SINK NO.1	560006300
12	METAL FITTING OF HEAT SINK	641013800
13	HEAT SINK ANGLE L/R	641015300/01
14	BUSHING PLATE	641016800
15	GND SPRING	---------
16	BOTTOM PLATE	645013500
17	SIDE PLATE R	646025001
18	SIDE PLATE L	646025000
19	SLIDE VR FRAME	646024900
20	TACT SW. KNOB NO.8	620022600
21	TACT SW. KNOB NO.7	620018307
22	SLIDE VR KNOB	640018100
23	POWER SW. KNOB	640018200
24	SPEAKER NET (LARGE)	640086300
25	SPEAKER NET (SMALL)	640086301
26	FELT (LONG)	---------
27	SLIT MASK	---------
28	CUSHION NO.1 L/R	---------
29	CUSHION NO.2	---------
30	SPACER NO.1	---------
31	CUSHION L	---------
32	CUSHION R	---------
33	RUBBER PLATE	---------
34	PANEL SUPPORTER	---------
35	CUSHION NO.3	---------
36	KEYBOARD AE-88	420003801
37	SPEAKER 160FW65-44	410002500
38	SPEAKER 57FT 102-8	410002600
39	POWER TRANSFORMER TC-035	400012100
40	POWER SW.	375010400
41	DATA LINE FILTER	525000500
42	P.C.BOARD KLM-1396	001139600
43	P.C.BOARD KLM-1403	001140300
44	P.C.BOARD KLM-1411	001141101
45	P.C.BOARD KLM-1412	001141101
46	VN ZMC 4	---------
47	P.C.BOARD KLM-825	001085200
48	TACT SW. KNOB NO.4	620018304
49	KEY COVER HINGE UNIT R	647004400
50	KEY COVER HINGE UNIT L	647004401
51	KEY COVER PANEL 1	640090000
52	KEY COVER PANEL 2	640090100
53	MUSIC STAND BOTTOM PLATE	640090200
54	KEY COVER STOPPER	640089400
55	KEY COVER	630006100
56	KEY COVER FRAME	646026400
57	MUSIC STAND PIN R	646026700
58	MUSIC STAND PIN L	646026701
59	CUSHION FOR PANEL NO.2	---------
60	STOPPER (RUBBER)	---------
61	STOPPER (FELT)	---------
62	STOPPER (FELT) NO.2	---------
63	SPIRAL CLIP CS-8	---------
64	SPIRAL CLIP CS-6	---------

FOR C-30

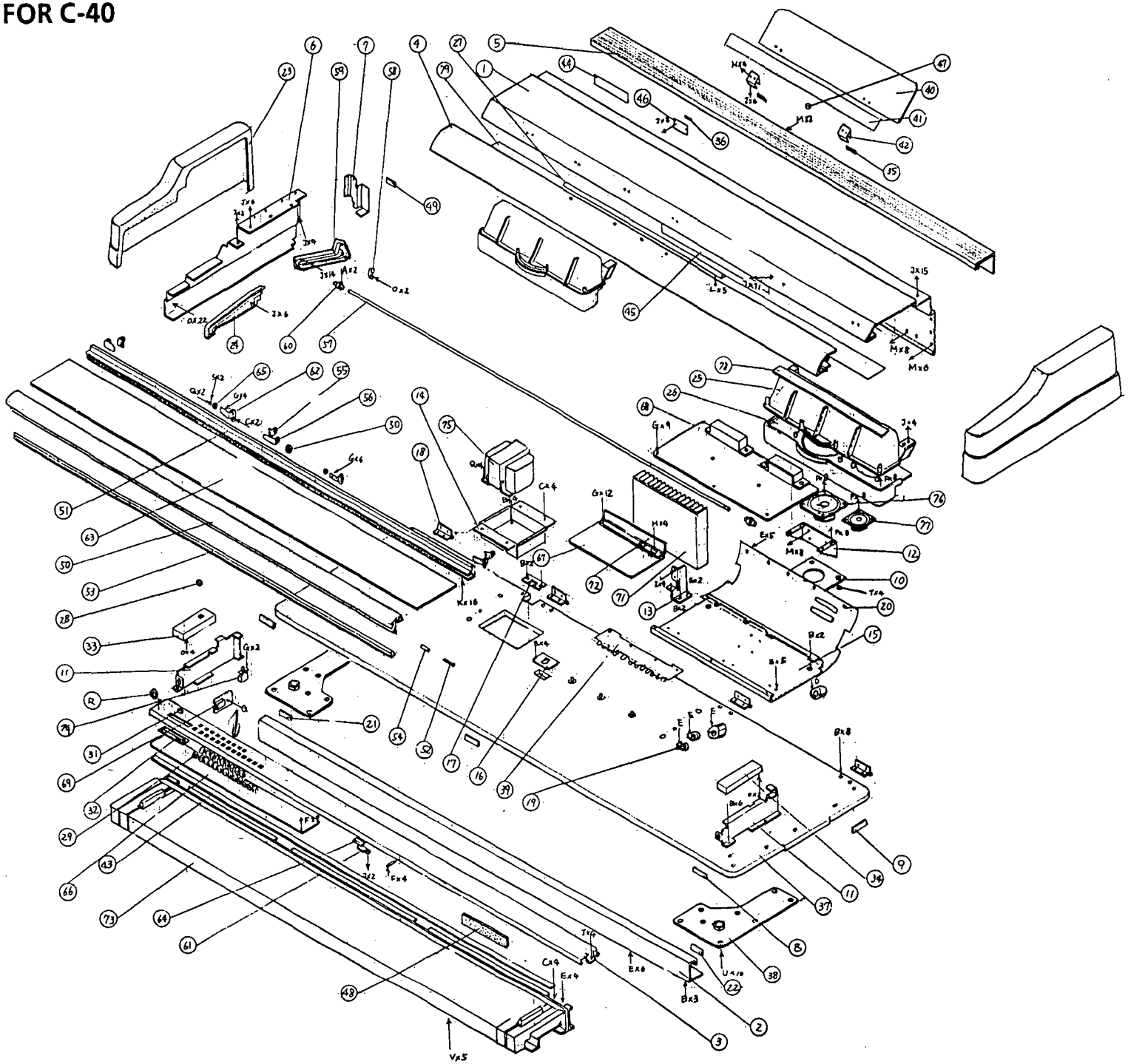


PART NO.	SCREWS & NUT	Q'TY
A	FE B ZMC 3 x 12	8
B	FE B ZMC 4 x 25	8
C	FE FEW BZMC 4 x 14	23
D	NRFE FEW BZMC 4 x 14	8
E	TP1 B BZMC 3 x 10	27
F	CT B ZMC 3 x 6	14
G	CT B ZMC 3 x 8	24
H	CT B ZMC 3 x 10	4
I	CT B ZMC 4 x 10	2
J	CT B BZMC 3 x 8	30
K	TP2G FEW ZMC 3 x 6	5
L	TP2G FEW BZMC 3 x 8	14
M	PLAX B BZMC 3 x 6	4
N	PLAX B BZMC 3 x 8	28
O	VN BZMC 12	1
P	FE WSE1 BZMC 4 x 25	10
Q	FE WSE1 BZMC 5 x 25	5

PART NO.	PART NAME	PART CODE
1	TOP PLATE	641014400
2	FRONT BAR	641014800
3	FRONT PANEL 1	641012100
4	FRONT GRILL 1	641014100
5	SIDE CHASSIS 1 L/R	641012400/01
6	REAR ANGLE 1 L/R	641013200/01
7	SPACER 1	---
8	KEY BLOCK CHASSIS L/R	641012600/01
9	HEAT SINK ANGLE L/R	641015300/01
10	SHIELD CHASSIS 1	641013900
11	CONNECTOR PLATE 2	640098400
12	BUSHING PLATE	641016600
13	KEY COVER PLATE L/R	630013300/400
14	HINGE	641015000
15	SPEAKER NET (LARGE)	640086300
16	SPEAKER NET (SMALL)	640086301
17	CLAMP	---
18	SHIELD SHEET	630013600
19	CUSHION L	---
20	CUSHION R	---
21	SIDE PLATE L/R	646034600/01
22	GUIDE L/R	646034900/01
23	MUSIC STOPPER A	646036600
24	POWER SW. KNOB NO. 2	620002160

PART NO.	PART NAME	PART CODE
25	TACT SW. KNOB NO. 1	620023300
26	SLIDE VR KNOB	620022500
27	SLIDE VR FRAME	646037100
28	KEY BLOCK L	646035000
29	KEY BLOCK R	646035001
30	HINGE CAP	629010907
31	SERIAL NO. SEAL	---
32	STOPPER	---
33	CUSHION 2	---
34	REAR CUSHION	---
35	BOTTOM PLATE	645013100
36	METAL FITTING OF STAND L/R	641013000/01
37	MUSIC STAND PLATE	630012700
38	MUSIC STAND BOTTOM PLATE	646035700
39	MUSIC STAND HINGE	641014900
40	FELT (LONG)	---
41		
42	SLIT MASK	---
43	FRONT SLIT MASK	---
44	NAME PLATE	---
45	P. C. BOARD KLM-1397	001139700
46	P. C. BOARD KLM-1403	001140300
47	P. C. BOARD KLM-1396	001139600
48	P. C. BOARD KLM-1398	001139800
49	SPEAKER (LARGE)	410002500
50	SPEAKER (SMALL)	410002600
51	POWER TRANSFORMER TC-035	400012100
52	HEAT SINK NO. 1	560006300
53	METAL FITTING OF HEAT SINK	641013800
54	POWER SW.	375010400
55	KEYBOARD AE88	420003801

FOR C-40

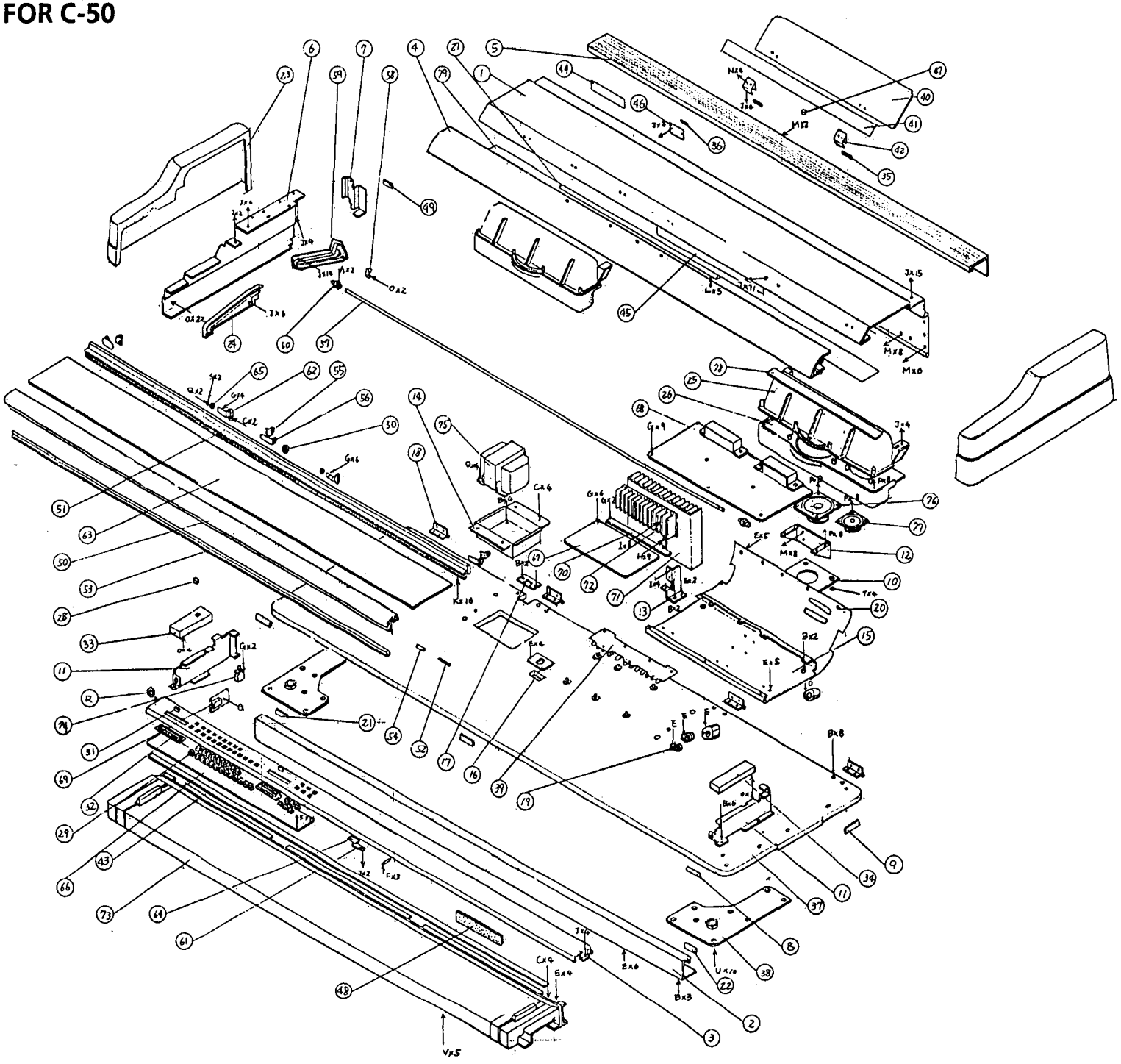


PART NO.	SCREWS & NUT	Q'TY
A	NRFE F ZMC 3 x 10	2
B	FE FEW BZMC 4 x 14	27
C	NRFE FEW BZMC 4 x 14	10
D	TP1 F ZMC 3 x 10	1
E	TP1 B BZMC 3 x 10	29
F	CT B ZMC 3 x 6	13
G	CT B ZMC 3 x 8	34
H	CT B ZMC 3 x 10	4
I	CT B ZMC 4 x 10	4
J	CT B BZMC 3 x 8	74
K	PT B BZMC 2.6 x 5	16
L	TP2G FEW ZMC 3 x 6	5
M	TP2G FEW BZMC 3 x 8	24
N	PLAX B BZMC 3 x 6	4
O	PLAX B BZMC 3 x 8	30
P	PLAX B BZMC 4 x 12	34
Q	FHN ZMC 4	6
R	VN BZMC 12	1
S		
T	WM ZMC 4	10
U	FE WSE1 BZMC 4 x 25	10
V	FE WSE1 BZMC 5 x 25	5

PART NO.	PART NAME	PART CODE
1	TOP PANEL 2	641014500
2	FRONT BAR	641014800
3	FRONT PANEL 2	641012101
4	FRONT GRILL 2	641014200
5	REAR GRILL	641014000
6	SIDE CHASSIS 2 L/R	641015500/01
7	REAR ANGLE 2 L/R	641015100/01
8	SPACER 1	---
9	SIDE PLATE SPACER	---
10	FELT	---
11	KEY BLOCK CHASSIS L/R	641012600/01
12	SPEAKER-CHASSIS	641015200
13	HEAT SINK ANGLE L/R	641015300/01
14	POWER TRANSFORMER CASE	641012700
15	SHIELD CHASSIS 2	641013901
16	CONNECTOR PLATE 2	640098400
17	BUSHING PLATE	641016600
18	HINGE	641015000
19	CLAMP	---
20	SHIELD SHEET	630013600
21	CUSHION L	---
22	CUSHION R	---
23	SIDE PLATE L/R	646034600/01
24	GUIDE L/R	646034900/01
25	REFLECTOR 1	646036400
26	REFLECTOR 2 L/R	646036500/01
27	MUSIC STOPPER A	646036600
28	POWER SW. KNOB NO.2	620021800
29	TACT SW. KNOB NO.1	620022300
30		
31	SLIDE VR KNOB	620022500
32	SLIDE VR FRAME	646037100
33	KEY BLOCK L	646035000
34	KEY BLOCK R	646035001
35	HINGE CAP	629010907
36	SERIAL NO. SEAL	---
37	BOTTOM PLATE 2	645013200
38	METAL FITTING OF STAND	641013000/01
39	RADIATION COVER	641016700
40	MUSIC STAND PLATE	630012700
41	MUSIC STAND BOTTOM PLATE	646035700
42	MUSIC STAND HINGE	641014900
43	FELT (LONG)	---
44		
45	SLIT MASK	---
46	NAME PLATE	---

PART NO.	PART NAME	PART CODE
47	STOPPER	---
48	CUSHION	---
49	REAR CUSHION	---
50	KEY COVER PANEL A	641012200
51	KEY COVER PANEL B	641012300
52	KEY COVER SIDE PIN	---
53	PANEL CUSHION	---
54	KEY COVER SIDE ROLLER	646036000
55	SHAFT COLLAR	646035300
56	SHAFT ANGLE	641015400
57	KEY COVER SHAFT	641016500
58	KEY COVER STOPPER	641016800
59	RACK L/R	646035800/01
60	GEAR	646035900
61	ANGLE	---
62	METAL FITTING OF ROLLER	---
63	KEY COVER	630012800
64	FELT L	---
65	BEARING	---
66	P.C.BOARD KLM-1397	001139701
67	P.C.BOARD KLM-1403	001140301
68	P.C.BOARD KLM-1396	001139601
69	P.C.BOARD KLM-1398	001139800
70		
71	HEAT SINK NO.2	560006400
72	METAL FITTING OF HEAT SINK	641013800
73	KEYBOARD AE88	420003801
74	POWER SW.	375010400
75	POWER TRANSFORMER	400012300
76	SPEAKER (LARGE)	410003200
77	SPEAKER (SMALL)	410003300
78	SPONGE	---
79	KEY COVER MASK	---

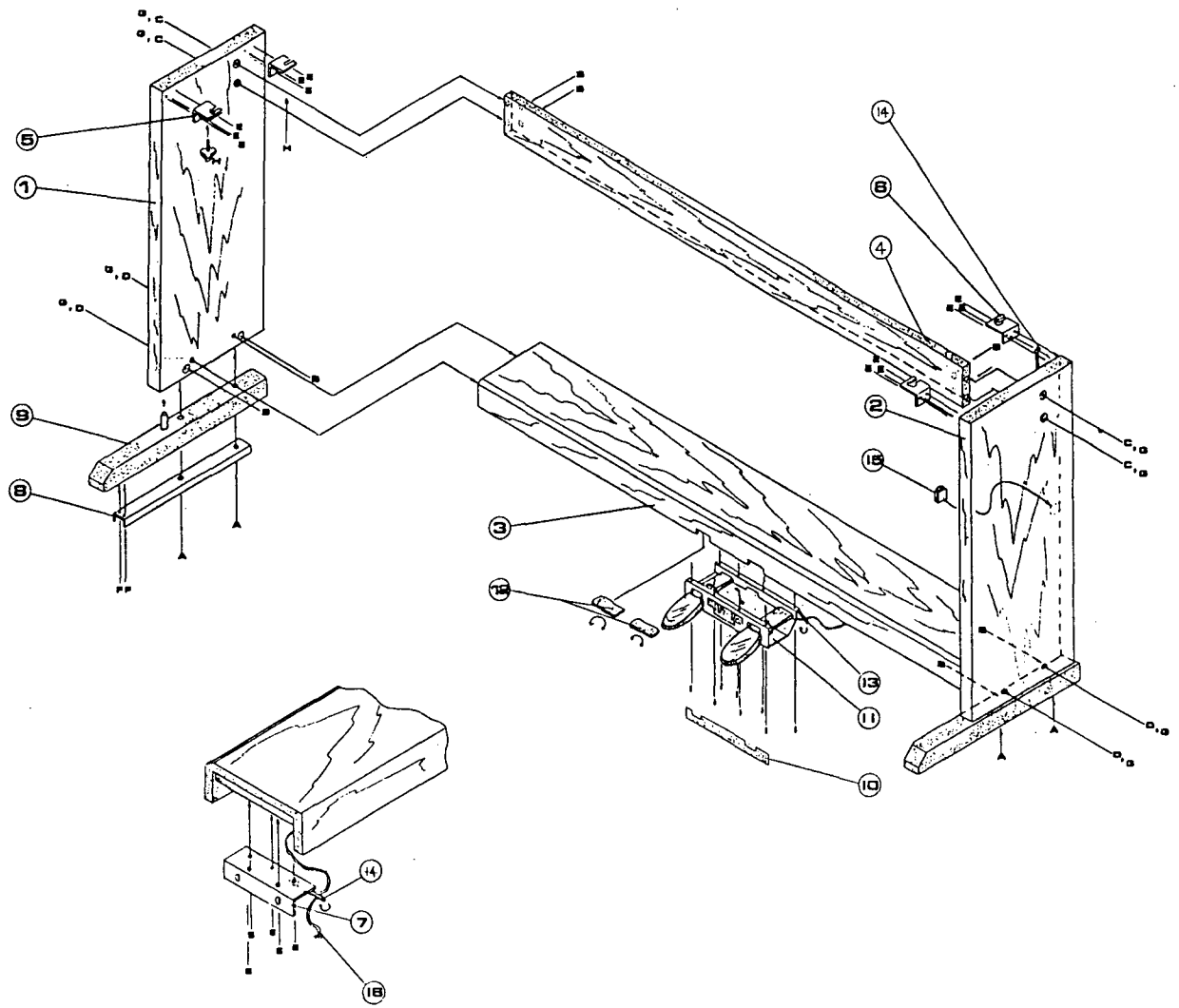
FOR C-50

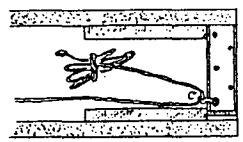


PART NO.	SCREWS & NUT	Q'TY
A	NRFE F ZMC 3 x 10	2
B	FE FEW BZMC 4 x 14	27
C	NRFE FEW BZMC 4 x 14	10
D	TP1 F ZMC 3 x 10	1
E	TP1 B BZMC 3 x 10	29
F	CT B ZMC 3 x 6	13
G	CT B ZMC 3 x 8	34
H	CT B ZMC 3 x 10	4
I	CT B ZMC 4 x 10	4
J	CT B BZMC 3 x 8	74
K	PT B BZMC 2.6 x 5	16
L	TP2G FEW ZMC 3 x 6	5
M	TP2G FEW BZMC 3 x 8	24
N	PLAX B BZMC 3 x 6	4
O	PLAX B BZMC 3 x 8	30
P	PLAX B BZMC 4 x 12	34
Q	FHN ZMC 4	6
R	VN BZMC 12	1
S	WM ZMC 3	2
T	WM ZMC 4	10
U	FE WSE1 BZMC 4 x 25	10
V	FE WSE1 BZMC 5 x 25	5

PART NO.	PART NAME	PART CODE
1	TOP PANEL 2	641014500
2	FRONT BAR	641014800
3	FRONT PANEL 3	641012102
4	FRONT GRILL 2	641014200
5	REAR GRILL	641014000
6	SIDE CHASSIS 2 L/R	641015500/01
7	REAR ANGLE 2 L/R	641015100/01
8	SPACER 1	---
9	SIDE PLATE SPACER	---
10	FELT	---
11	KEY BLOCK CHASSIS L/R	641012600/01
12	SPEAKER CHASSIS	641015200
13	HEAT SINK ANGLE L/R	641015300/01
14	POWER TRANSFORMER CASE	641012700
15	SHIELD CHASSIS 2	641013901
16	CONNECTOR PLATE 2	640098400
17	BUSHING PLATE	641016600
18	HINGE	641015000
19	CLAMP	---
20	SHIELD SHEET	630013600
21	CUSHION L	---
22	CUSHION R	---
23	SIDE PLATE L/R	646034600/01
24	GUIDE L/R	646034900/01
25	REFLECTOR 1	646036400
26	REFLECTOR 2 L/R	646036500/01
27	MUSIC STOPPER A	646036600
28	POWER SW. KNOB NO. 2	620021600
29	TACT SW. KNOB NO. 1	620022300
30		
31	SLIDE VR KNOB	620022500
32	SLIDE VR FRAME	646037100
33	KEY BLOCK L	646035000
34	KEY BLOCK R	646035001
35	HINGE CAP	629010907
36	SERIAL NO. SEAL	---
37	BOTTOM PLATE 3	645013300
38	METAL FITTING OF STAND	641013000/01
39	RADIATION COVER	641016700
40	MUSIC STAND PLATE	630012700
41	MUSIC STAND BOTTOM PLATE	646035700
42	MUSIC STAND HINGE	641014900
43	FELT (LONG)	---
44		
45	SLIT MASK	---
46	NAME PLATE	---

PART NO.	PART NAME	PART CODE
47	STOPPER	---
48	CUSHION	---
49	REAR CUSHION	---
50	KEY COVER PANEL A	641012200
51	KEY COVER PANEL B	641012300
52	KEY COVER SIDE PIN	---
53	PANEL CUSHION	---
54	KEY COVER SIDE ROLLER	646036000
55	SHAFT COLLAR	646035300
56	SHAFT ANGLE	641015400
57	KEY COVER SHAFT	641016500
58	KEY COVER STOPPER	641016800
59	RACK L/R	646035800/01
60	GEAR	646035900
61	ANGLE	---
62	METAL FITTING OF ROLLER	---
63	KEY COVER	630012800
64	FELT L	---
65	BEARING	---
66	P.C.BOARD KLM-1400	001140000
67	P.C.BOARD KLM-1403	001140302
68	P.C.BOARD KLM-1399	001139900
69	P.C.BOARD KLM-1398	001139800
70	P.C.BOARD KLM-1404	001140400
71	HEAT SINK NO. 2	560006400
72	HEAT SINK NO. 3	560006600
73	KEYBOARD AE88	420003801
74	POWER SW.	375010400
75	POWER TRANSFORMER	400012300
76	SPEAKER (LARGE)	410003200
77	SPEAKER (SMALL)	410003300
78	SPONGE	---
79	KEY COVER MASK	---

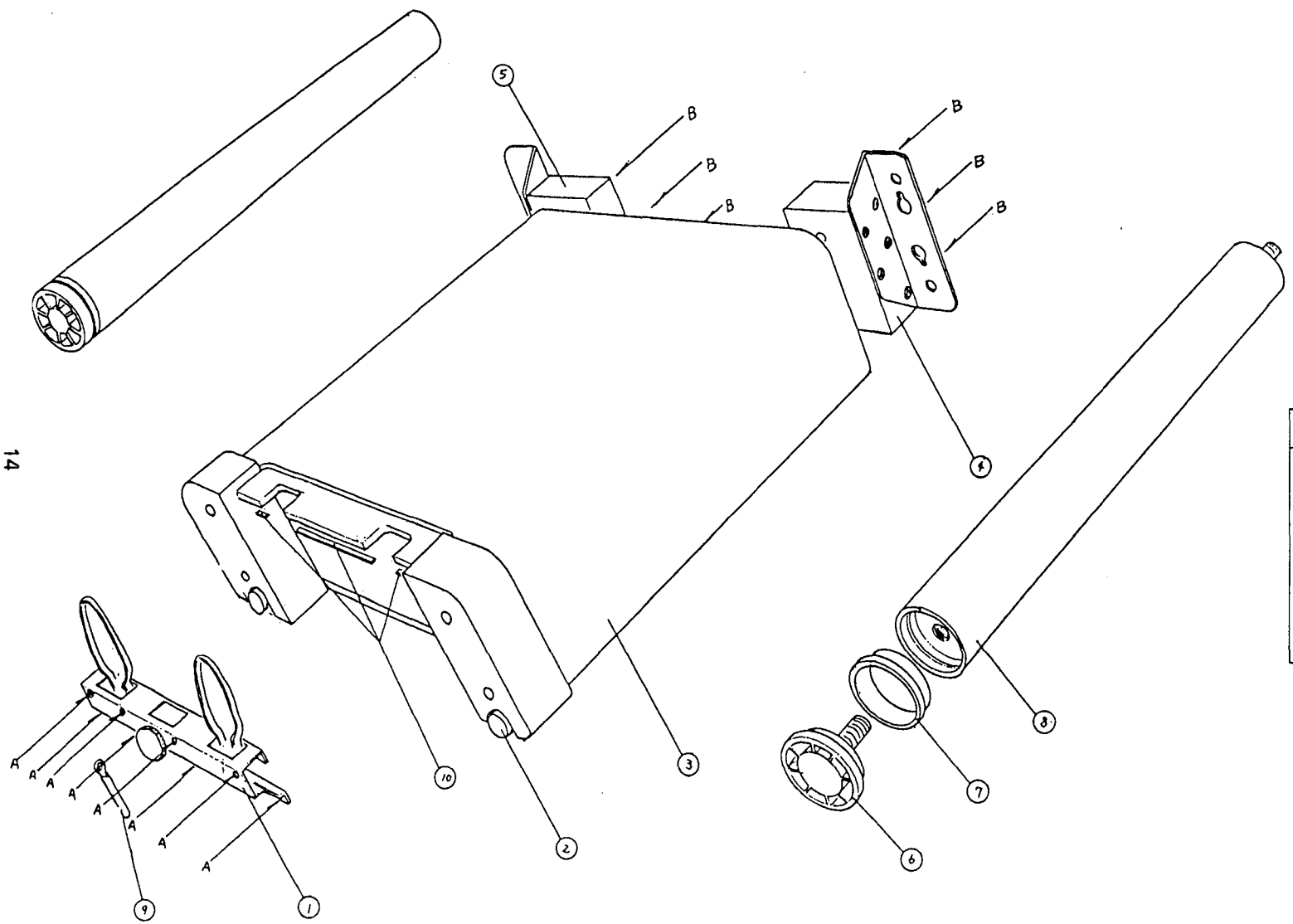




FOR ST-5500

PART NO.	SCREWS & NUT	Q'TY
A	FE P ZMC 6 x 60	4
B	NUT JRN0100M BZMC	8
C	JBA-0109M 6 x 70 BZMC	4
D	JBA-0108M 6 x 60 BZMC	4
E	TP1 B BZMC 3 x 20	22
F	PLAX B ZMC 4 x 10	4
G	CAP FOR JOINT CONNECTOR	8
H	KT-B2 M6 x 25	4
I	TP1 B ZMC 4 x 12	8

PART NO.	PART NAME	PART CODE
1	SIDE PLATE (L)	646025100
2	SIDE PLATE (R)	646025101
3	STAND BOTTOM PLATE	645013600
4	STAND PLATE	645009200
5	METAL FITTING OF JOINT (L)	640083300
6	METAL FITTING OF JOINT (R)	640083301
7	METAL FITTING TYPE L	640083400
8	STAND BASE CHASSIS	640083200
9	STAND BASE	646023500
10	PLATE FOR PEDAL UNIT	630013700
11	PEDAL UNIT	---------
12	FELT FOR PEDAL	---------
13	SPIRAL CLIP CS-6	540008601
14	SPIRAL CLIP CS-8	540008600
15	WIRE CLAMP	540013500
16	HARNESS HNS-1473	475001473

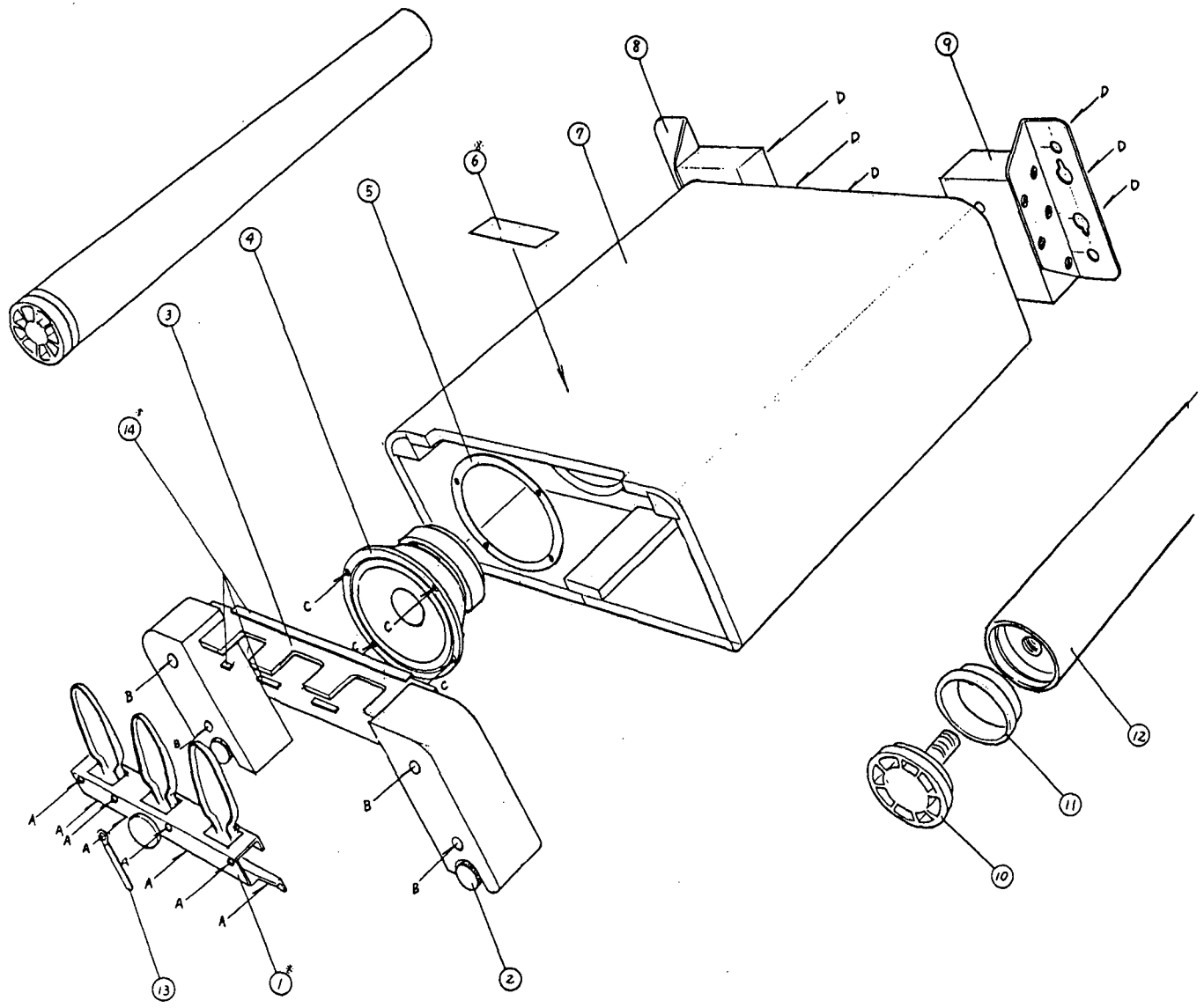


FOR ST-30

PART NO.	SCREWS	Q'TY
A	TP1 B ZMC 4 x 12	8
B	FE WSE2 4 x 40	6

PART NO.	PART NAME	PART CODE
1	PEDAL UNIT	---------
2	ADJUSTING SCREW	644005400
3	WOOFER SPEAKER BOX	645013400
4	ANGLE ASSY (L)	---------
5	ANGLE ASSY (R)	---------
6	ADJUSTING SCREW FOR STAND	646037000
7	PIPE BUSHING (SILVER)	646036900
8	PIPE FOR STAND	641016000
9	SPIRAL CLIP	540008601
10	SPONGE	---------

[redacted]



FOR ST-40/50

PART NO.	SCREWS	Q'TY
A	TP1 B ZMC 4 x 12	8
B	FE WSE1 ZMC 4 x 50	4
C	TP1 P ZMC 4 x 20	4
D	FE WSE2 BZMC 4 x 40	6

FOR ST-40

PART NO.	PART NAME	PART CODE
1	PEDAL UNIT	---------
2	ADJUSTING SCREW	644005400
3	PLATE FOR PEDAL 1	---------
4	SPEAKER JA-1615	410003400
5	SPEAKER CUSHION	500016900
6	AST PLATE (SILVER)	641015700
7	WOOFER SPEAKER BOX	645013400
8	ANGLE ASSY (L)	---------
9	ANGLE ASSY (R)	---------
10	ADJUSTING SCREW FOR STAND	646037000
11	PIPE BUSHING (SILVER)	646036900
12	PIPE FOR STAND	641016000
13	SPIRAL CLIP	540008601
14	SPONGE	---------

FOR ST-50

PART NO.	PART NAME	PART CODE
1	PEDAL UNIT	---------
2	ADJUSTING SCREW	644005400
3	PLATE FOR PEDAL 2	---------
4	SPEAKER JA-1615	410003400
5	SPEAKER CUSHION	500016900
6	AST PLATE (GOLD)	641015600
7	WOOFER SPEAKER BOX	645013400
8	ANGLE ASSY (L)	---------
9	ANGLE ASSY (R)	---------
10	ADJUSTING SCREW FOR STAND	646037000
11	PIPE BUSHING (GOLD)	646036800
12	PIPE FOR STAND	641016000
13	SPIRAL CLIP	540008601
14	SPONGE	---------

FOR PEDAL UNIT

PART CODE	PART NAME	PRODUCT NAME	Q'TY
001141400	P.C.BOARD KLM-1414	ST-5500/30/40/50	1
471060400	CONNECTOR TOP B4B-EH	ST-5500/30/40/50	1
500016500	CONTACT RUBBER	ST-5500/30/40	2
		ST-50	3
550009100	FELT FOR PEDAL	ST-5500	2
550014200	FELT (L)	ST-5500/30/40	2
		ST-50	3
550014300	FELT (S)	ST-5500/30/40	2
		ST-50	3
641015800	PEDAL UNIT CHASSIS	ST-5500/30/40/50	1
641015900	PEDAL (SILVER)	ST-5500/30/40	2
641015901	PEDAL (GOLD)	ST-50	3
644005400	ADJUSTING SCREW	ST-5500/30/40/50	1
644005500	SPRING FOR PEDAL	ST-5500/30/40	2
		ST-50	3
646036700	PEDAL SLIDER	ST-5500/30/40	2
		ST-50	3

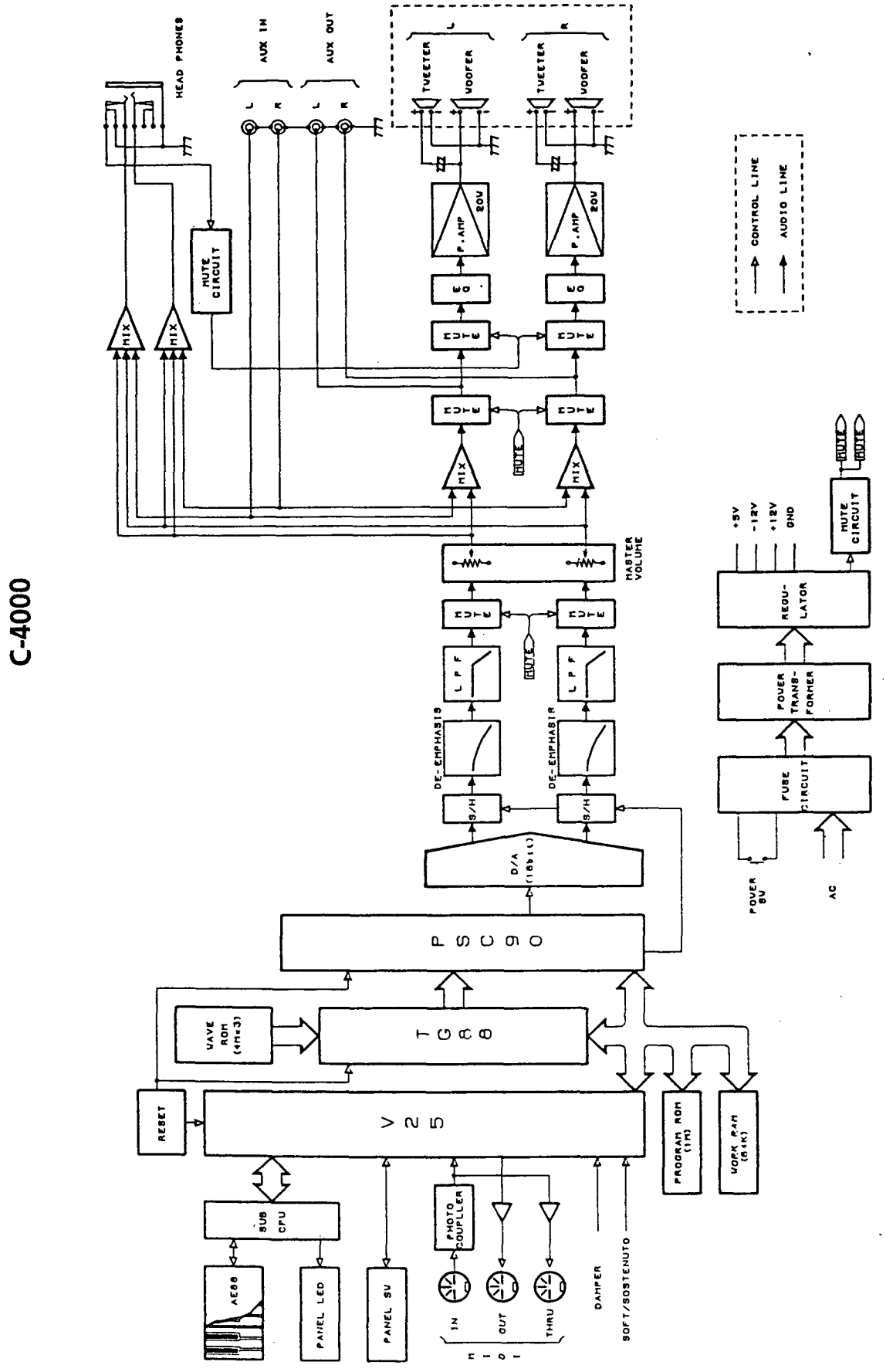
P. C. BOARD IDENTIFICATION LIST FOR NEW C-SERIES

	MAIN BOARD	PANEL BOARD	PHONE JACK BOARD	POWER SUPPLY / AMP. BOARD
C-30	KLM-1396 (001139600) SOUND SOURCE : TG : TG88 x 1 MASK ROM : 4M x 3 PSC : UPD65013GF-C23 DSP : MOUNTED	KLM-1397 (001139700) SW/LED : 16 PCS.	KLM-1398 (001139800)	KLM-1403 (001140300) NO AST CIRCUIT HEAT SINK (SMALL)
C-40	KLM-1396 (001139601) SOUND SOURCE : TG : TG88 x 1 MASK ROM : 4M x 3 + 2M x 3 PSC : UPD65013GF-C23 DSP : MOUNTED	KLM-1397 (001139701) SW/LED : 20 PCS.	KLM-1398 (001139800)	KLM-1403 (001140301) AST CIRCUIT HEAT SINK (MIDDLE)
C-50	KLM-1399 (001139900) SOUND SOURCE : TG : TG88 x 2 MASK ROM : 4M x 6 PSC : UPD65013GF-C23 DSP : MOUNTED	KLM-1400 (001140000) LED DRIVER : MOUNTED SW : 28 PCS. LED : 24 PCS.	KLM-1398 (001139800)	KLM-1403 (001140302) AST CIRCUIT HEAT SINK (LARGE) KLM-1404 (001140400)
C-4000	KLM-1396 (001139602) SOUND SOURCE : TG : TG88 x 1 MASK ROM : 4M x 3 PSC : UPD65012GF-A15 DSP : NOT MOUNTED	KLM-1411 (001141100) SW/LED : 8 PCS. 2 BOARDS 1 SET	KLM-1412	KLM-1403 (001140300) NO AST CIRCUIT HEAT SINK (SMALL)
C-5500	KLM-1396 (001139600) SOUND SOURCE : TG : TG88 x 1 MASK ROM : 4M x 3 PSC : UPD65013GF-C23 DSP : NOT MOUNTED	KLM-1411 (001141101) SW/LED : 11 PCS. 2 BOARDS 1 SET	KLM-1412	KLM-1403 (001140300) NO AST CIRCUIT HEAT SINK (SMALL)

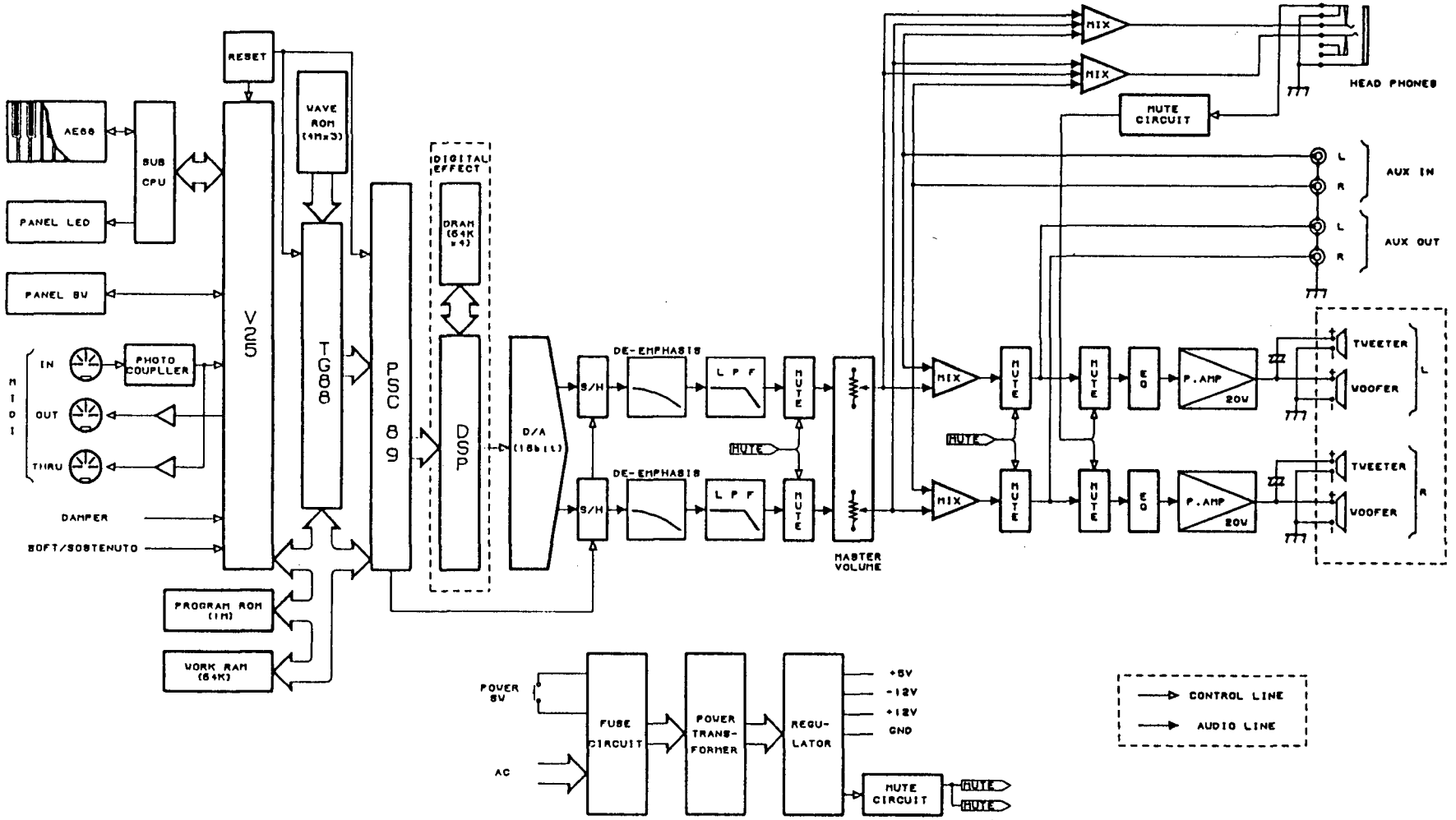
※ TG88 : MB87726 DSP : UPD6380G MASK ROM : UPD23C4001EGW (4M), UPD23C2000GC (2M)
( ) : PART CODE

3. BLOCK DIAGRAM

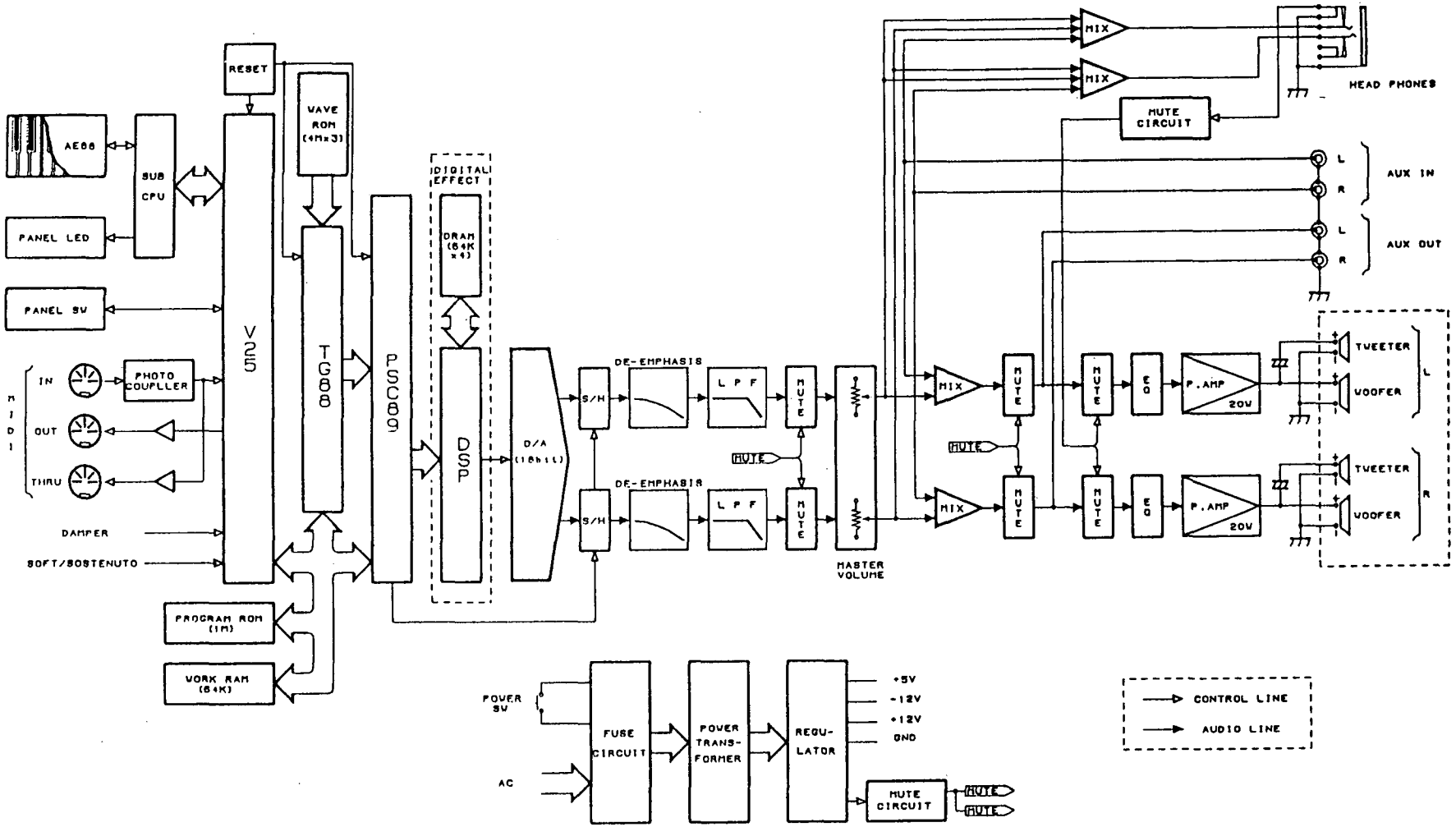
C-4000

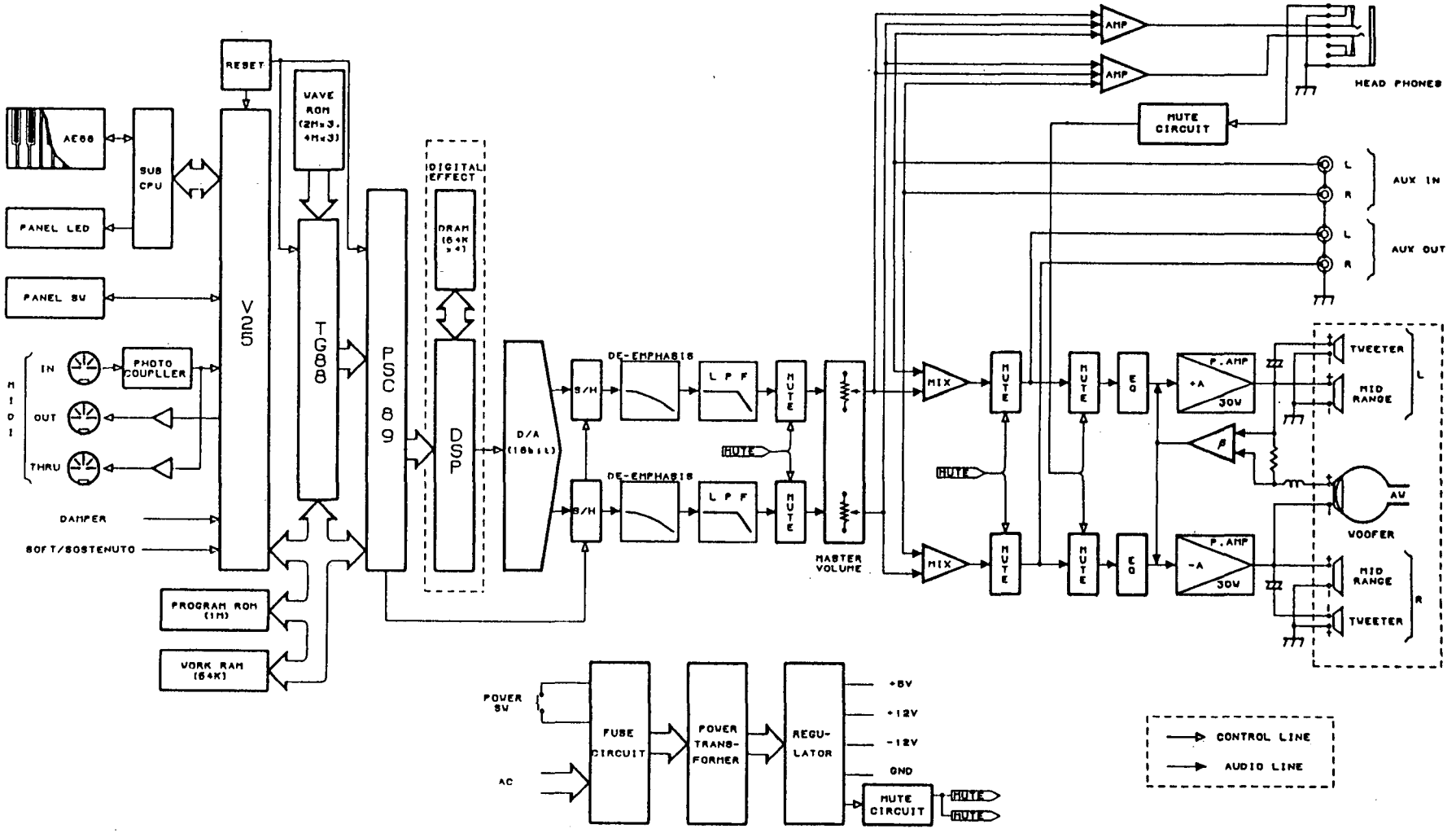


C-5500

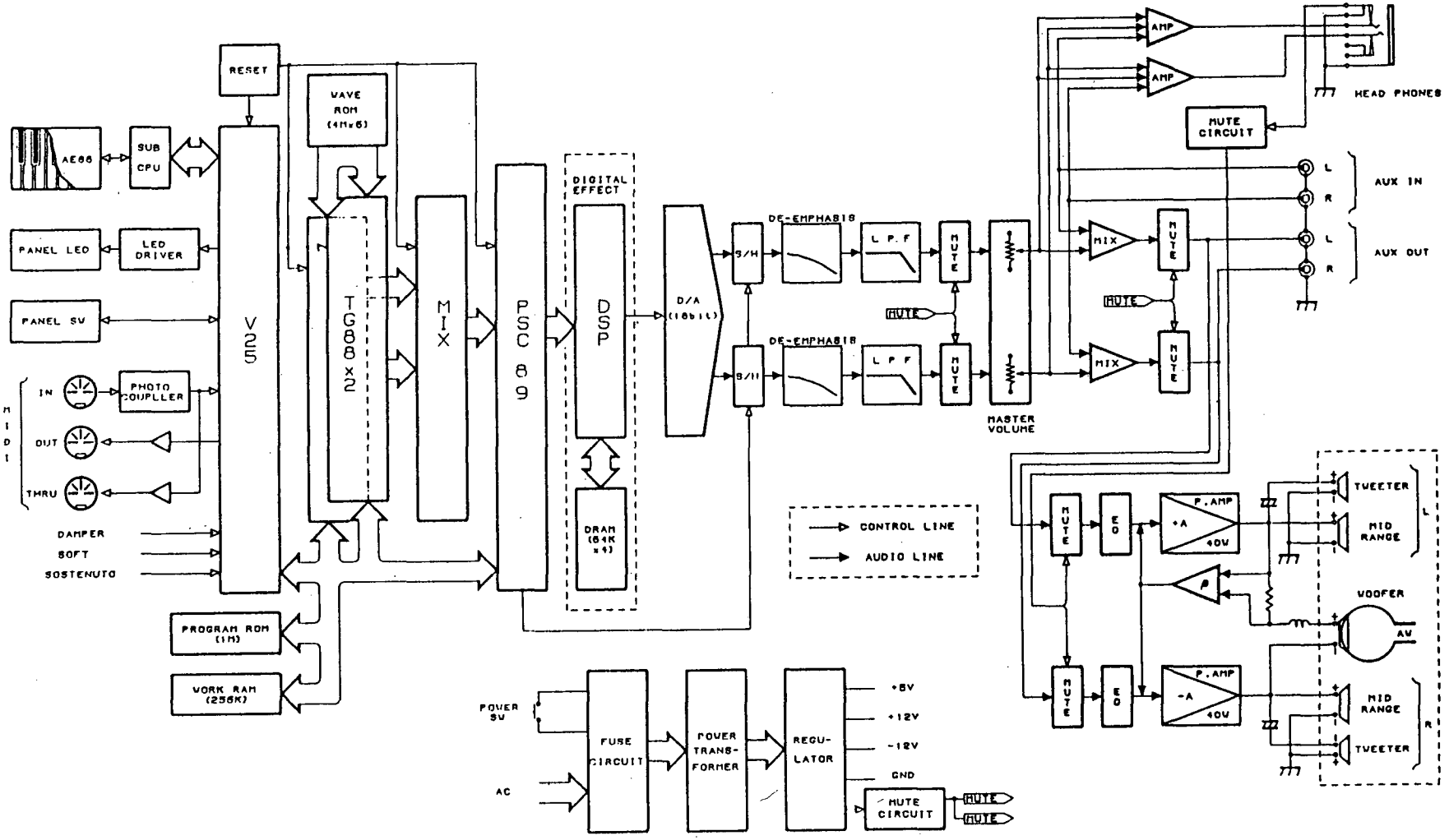

RESET
AE68
SUB CPU
PANEL LED
PANEL SW
MIDI
IN
OUT
THRU
PHOTO COUPLLER
DAMPER
SOFT/SOSTENUTO
V25
WAVE ROM (4M×3)
TG68
PSC 89
DIGITAL EFFECT
DRAM (64K ×4)
DSP
D/A (18bit)
S/H
S/H
DE-EMPHASIS
DE-EMPHASIS
L P F
L P F
MUTE
MUTE
MASTER VOLUME
MIX
MIX
MIX
MIX
MUTE CIRCUIT
HEAD PHONES
AUX IN
AUX OUT
L
R
L
R
MUTE
MUTE
MUTE
MUTE
MUTE
MUTE
EQ
EQ
P.AMP 20W
P.AMP 20W
TWEETER
WOOFER
TWEETER
WOOFER
L
R
PROGRAM ROM (1M)
WORK RAM (64K)
POWER SW
AC
FUSE CIRCUIT
POWER TRANS-FORMER
REGU-LATOR
+5V
-12V
+12V
GND
MUTE CIRCUIT
MUTE
MUTE
CONTROL LINE
AUDIO LINE

C-30


RESET
WAVE ROM (4M×3)
AE88
SUB CPU
PANEL LED
PANEL SW
V25
TG88
PSC89
DIGITAL EFFECT
DRAM (64K×4)
DSP
D/A (18bit)
MIDI
IN
OUT
THRU
PHOTO COUPLLER
DAMPER
SOFT/SOSTENUTO
PROGRAM ROM (1M)
WORK RAM (64K)
S/H
DE-EMPHASIS
L P F
MUTE
MASTER VOLUME
MIX
EQ
P.AMP 20W
TWEETER
WOOFER
HEAD PHONES
MUTE CIRCUIT
AUX IN
AUX OUT
L
R
POWER SW
AC
FUSE CIRCUIT
POWER TRANS-FORMER
REGU-LATOR
+5V
-12V
+12V
GND
CONTROL LINE
AUDIO LINE

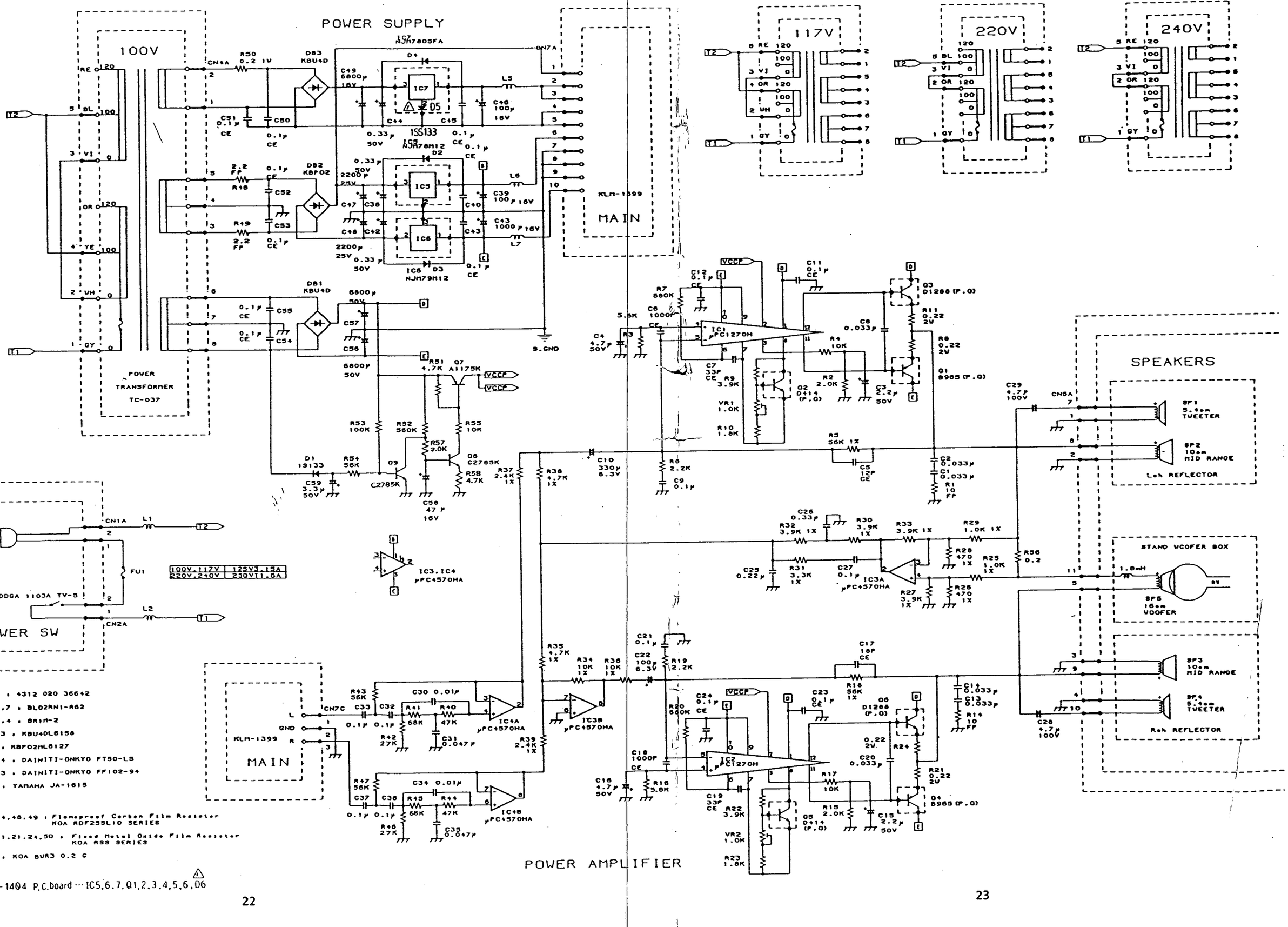

RESET
WAVE ROM (2M×3, 4M×3)
AE68
SUB CPU
PANEL LED
PANEL SW
V25
TG88
PSC 89
DIGITAL EFFECT
DRAM (64K×4)
DSP
MIDI
IN
OUT
THRU
PHOTO COUPLLER
DAMPER
SOFT/SOSTENUTO
PROGRAM ROM (1M)
WORK RAM (64K)
D/A (18bit L)
S/H
DE-EMPHASIS
L P F
MUTE
MASTER VOLUME
AMP
HEAD PHONES
MUTE CIRCUIT
L
R
AUX IN
AUX OUT
MIX
EQ
P.AMP
+A
-A
30W
TWEETER
MID RANGE
WOOFER
POWER SW
AC
FUSE CIRCUIT
POWER TRANS-FORMER
REGU-LATOR
+5V
+12V
-12V
GND
CONTROL LINE
AUDIO LINE

C-50


RESET
WAVE ROM (4M×8)
AE88
SUB CPU
PANEL LED
LED DRIVER
PANEL SW
IN
OUT
THRU
PHOTO COUPLER
MIDI
DAMPER
SOFT
SOSTENUTO
V25
TG88×2
MIX
PSC 89
DIGITAL EFFECT
DSP
DRAM (64K×4)
PROGRAM ROM (1M)
WORK RAM (256K)
D/A (16bit)
S/H
S/H
DE-EMPHASIS
DE-EMPHASIS
L P F
L P F
MUTE
MUTE
MASTER VOLUME
AMP
AMP
HEAD PHONES
MUTE CIRCUIT
MIX
MIX
MUTE
MUTE
MUTE
AUX IN
AUX OUT
L
R
L
R
CONTROL LINE
AUDIO LINE
MUTE
EQ
P.AMP
+A
40W
P
TWEETER
MID RANGE
WOOFER
AV
MUTE
EQ
P.AMP
-A
40W
MID RANGE
TWEETER
L
R
POWER SW
AC
FUSE CIRCUIT
POWER TRANS-FORMER
REGU-LATOR
+5V
+12V
-12V
GND
MUTE CIRCUIT
MUTE
MUTE

4. CIRCUIT DIAGRAM

KLM-1403/04 (FOR C-50)

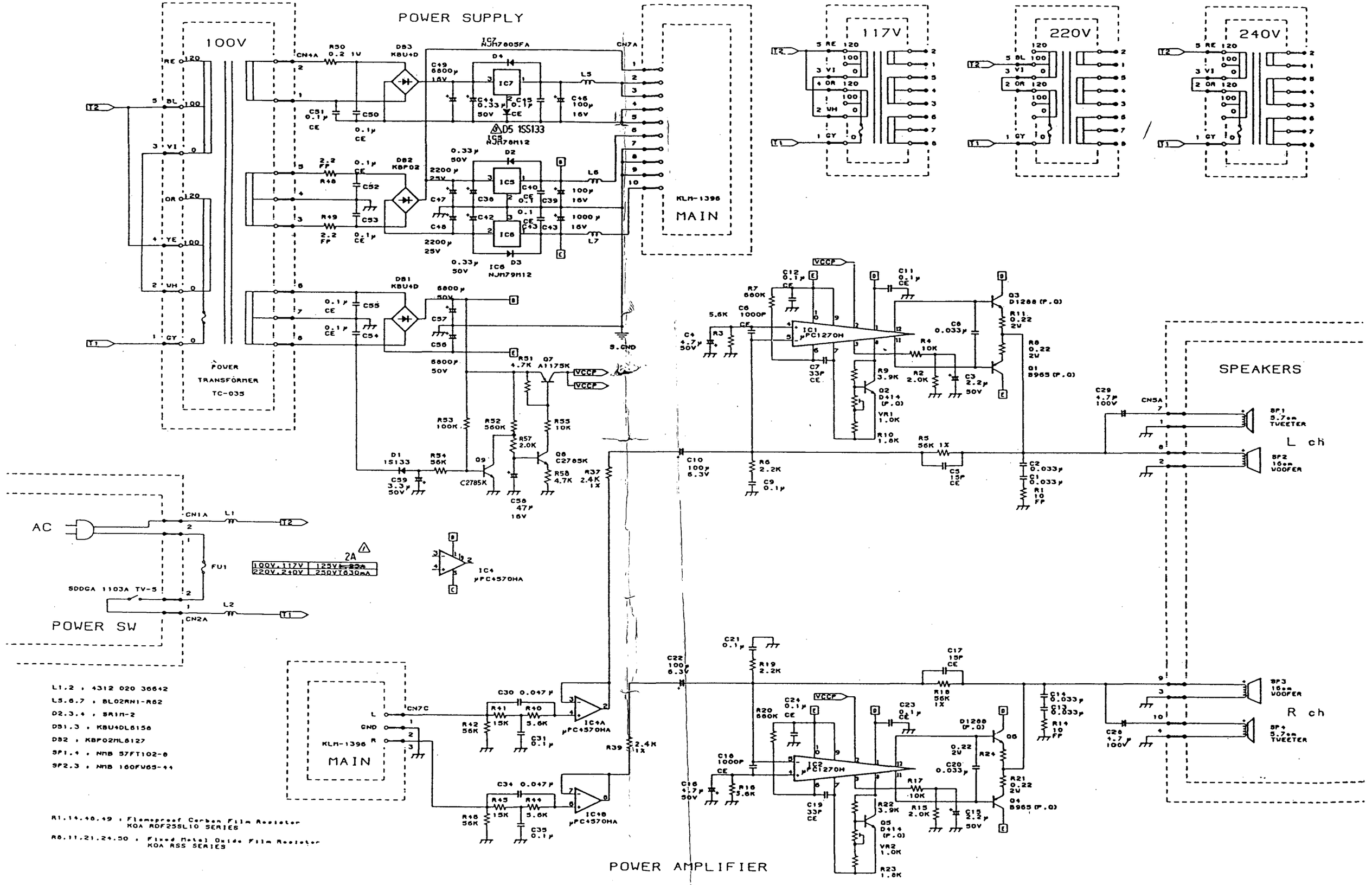


L1.2 : 4312 020 36642
L5.6.7 : BLO2RN1-A62
D2.3.4 : 8R1N-2
DB1.3 : KBU4DL6150
DB2 : KBP02ML6127
SP1.4 : DAINITI-ONKYO FT50-L5
SP2.3 : DAINITI-ONKYO FF102-94
SP5 : YAMAHA JA-1615

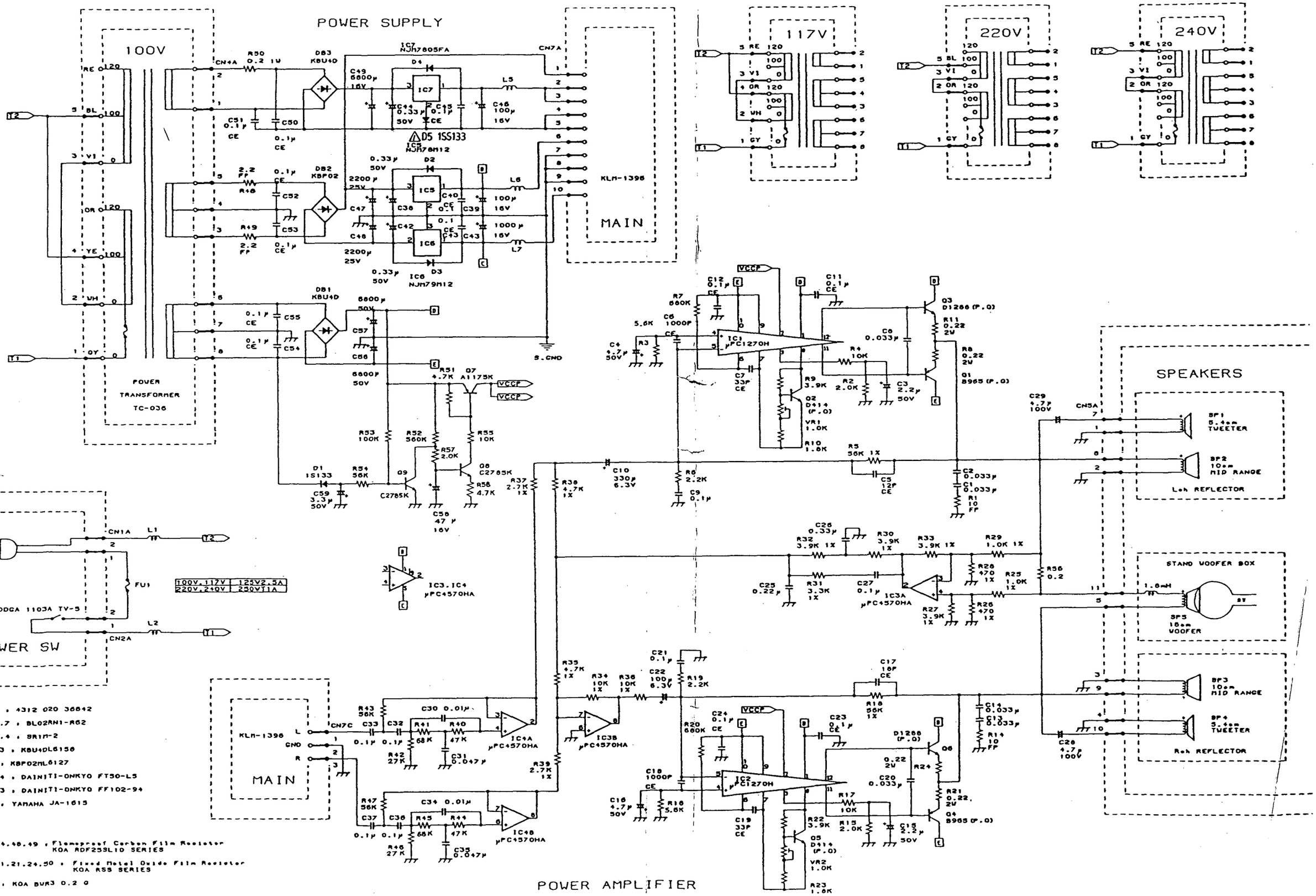
R1.14.48.49 : Flameproof Carbon Film Resistor KOA RDF259L10 SERIES
R6.11.21.24.50 : Fixed Metal Oxide Film Resistor KOA RSS SERIES
R56 : KOA BVR3 0.2 C

KLM-1404 P.C.board ··· IC5.6.7.Q1.2.3.4.5.6.D6

KLM-1403 (FOR C4000/5500/30)



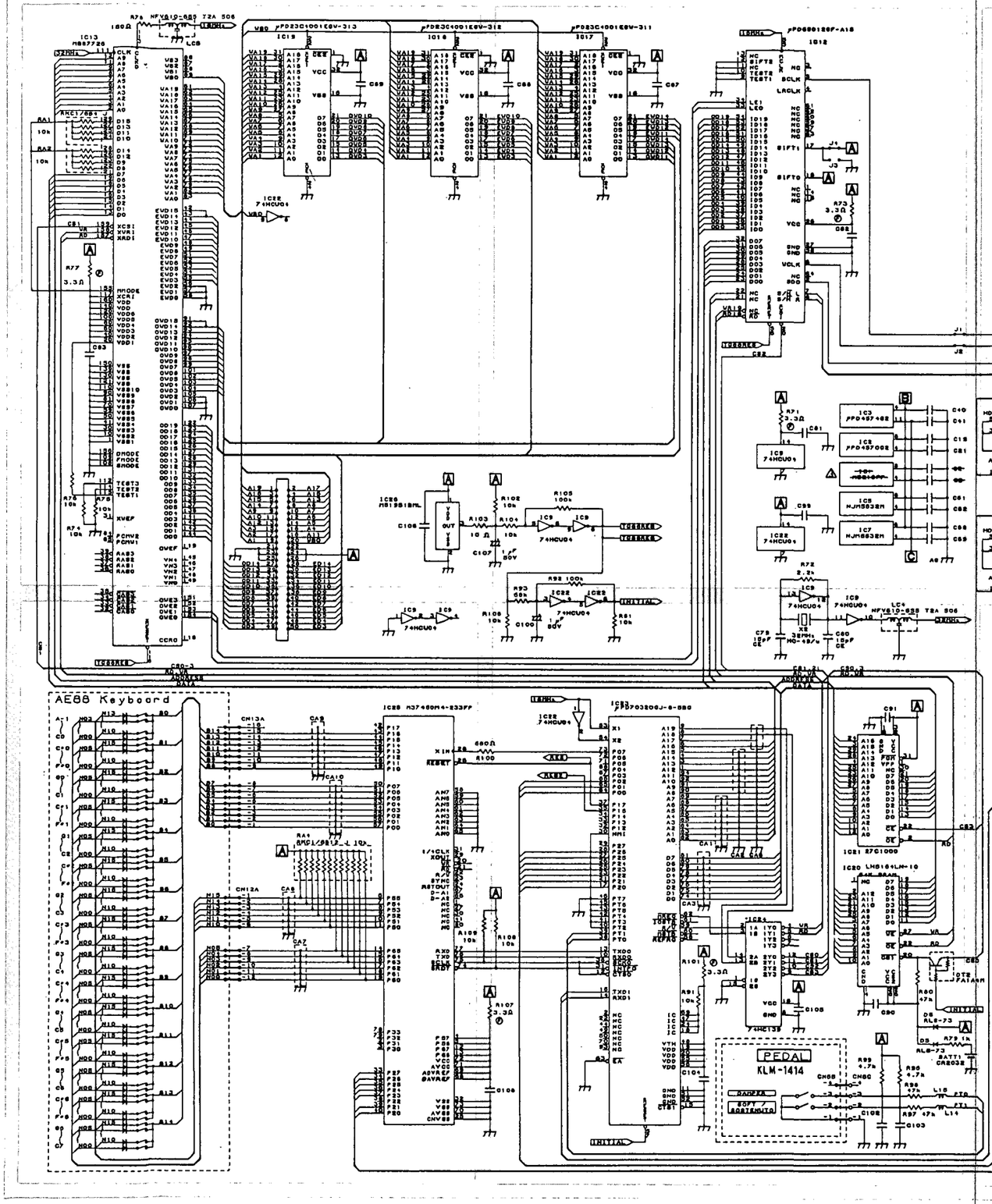
KLM-1403 (FOR C-40)



POWER AMPLIFIER

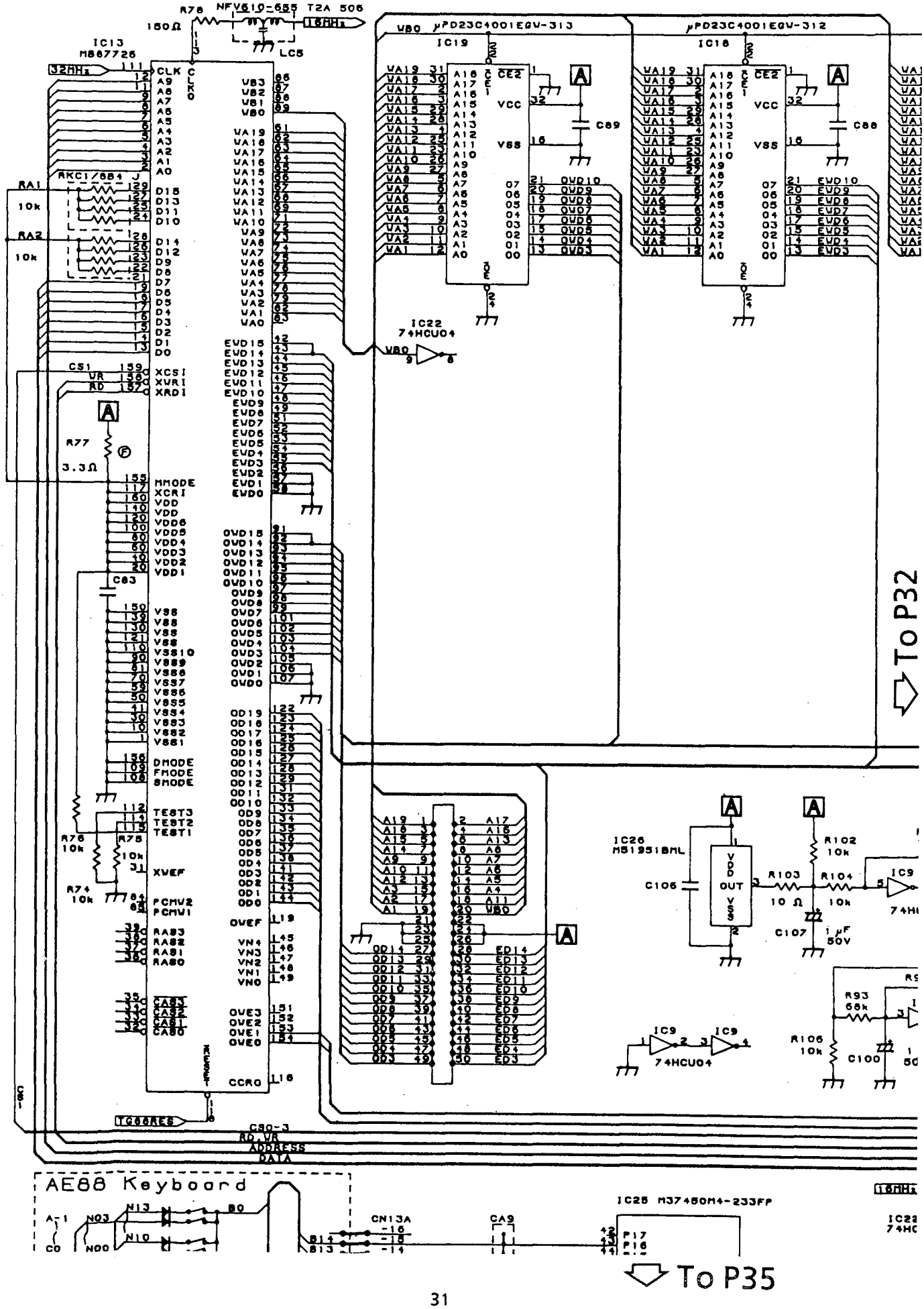
①	②	③	④
TG & SOUND ROM CIRCUIT P31	PARALLEL/ SERIAL CONVERTER P32	D/A CONVERTER & ANALOG CIRCUIT P33	ANALOG CIRCUIT & OUTPUT TERMINALS P34
KEYBOARD & SCANNING CIRCUIT P35	MAIN CPU CIRCUIT P36	PANEL SW CIRCUIT P37	PANEL SW & MIDI CIRCUIT P38
⑤	⑥	⑦	⑧

❶ ❷ ❸ ❹

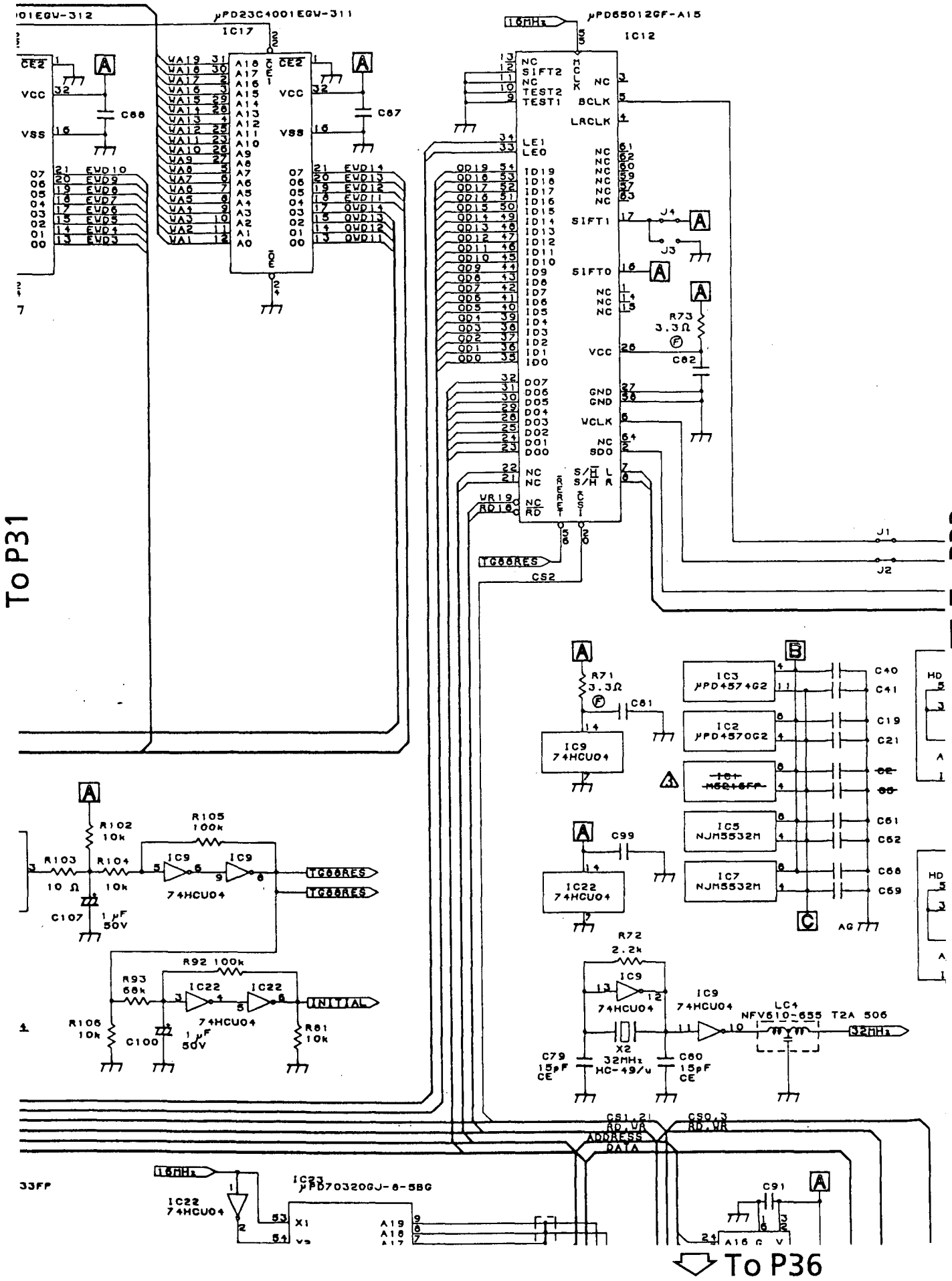

AE88 Keyboard
PEDAL
KLM-1414
DAMPER
SOFT / SOSTENUTO
PCM61P
PANEL
KLM-1411
MASTER VOLUME
HEADPHONE
KLM-1412
MIDI
AUX OUT
AUX IN
AMP P.S
KLM-1403
KLM-1396C
MAIN
PANEL
KLM-1411
IC 1
M5216FP
R111 C2
47µF/16V
C5 47µF/16V
R110
820pF
820pF
100Ω
100Ω
MUTE CV
INITIAL

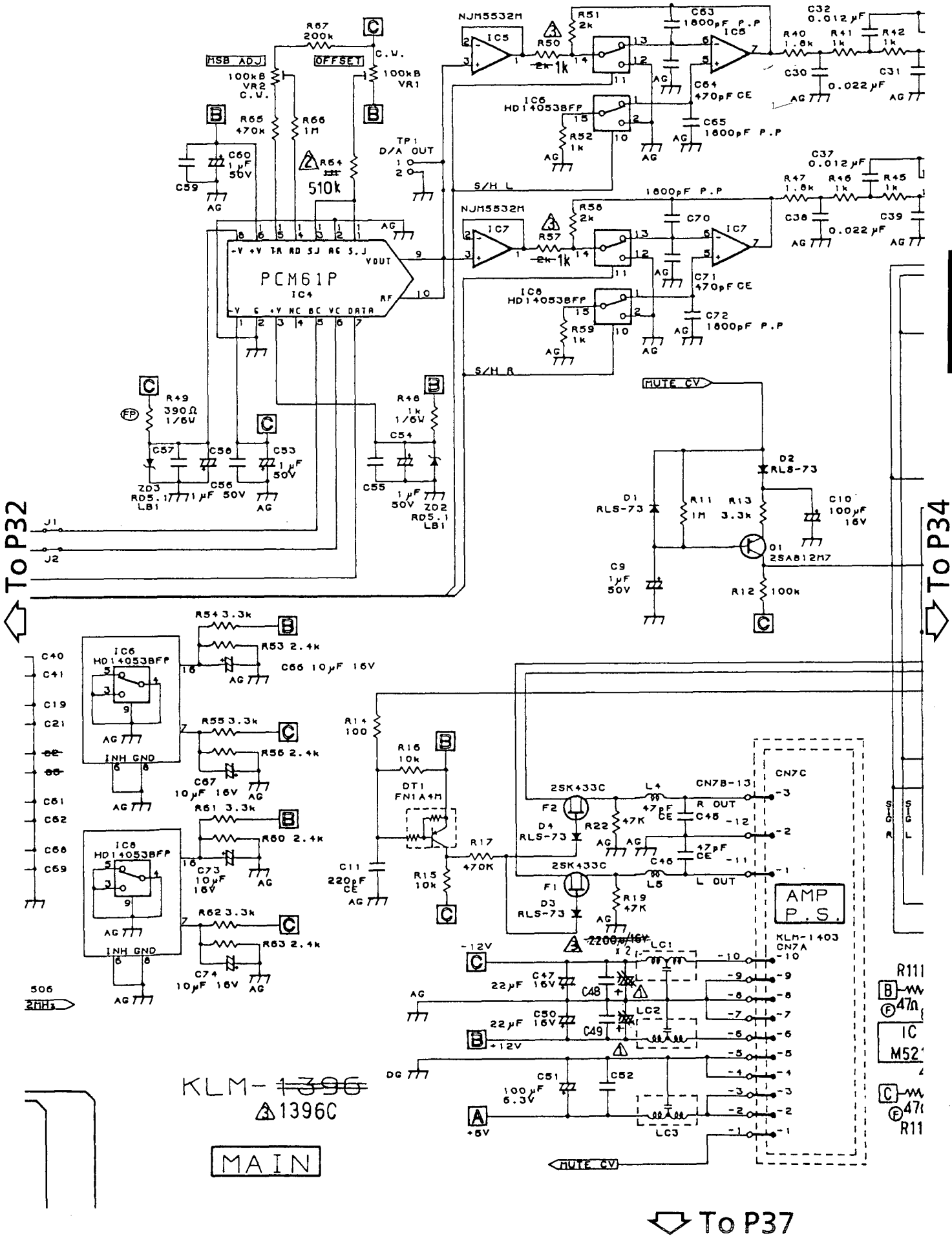
❺ ❻ ❼ ❽

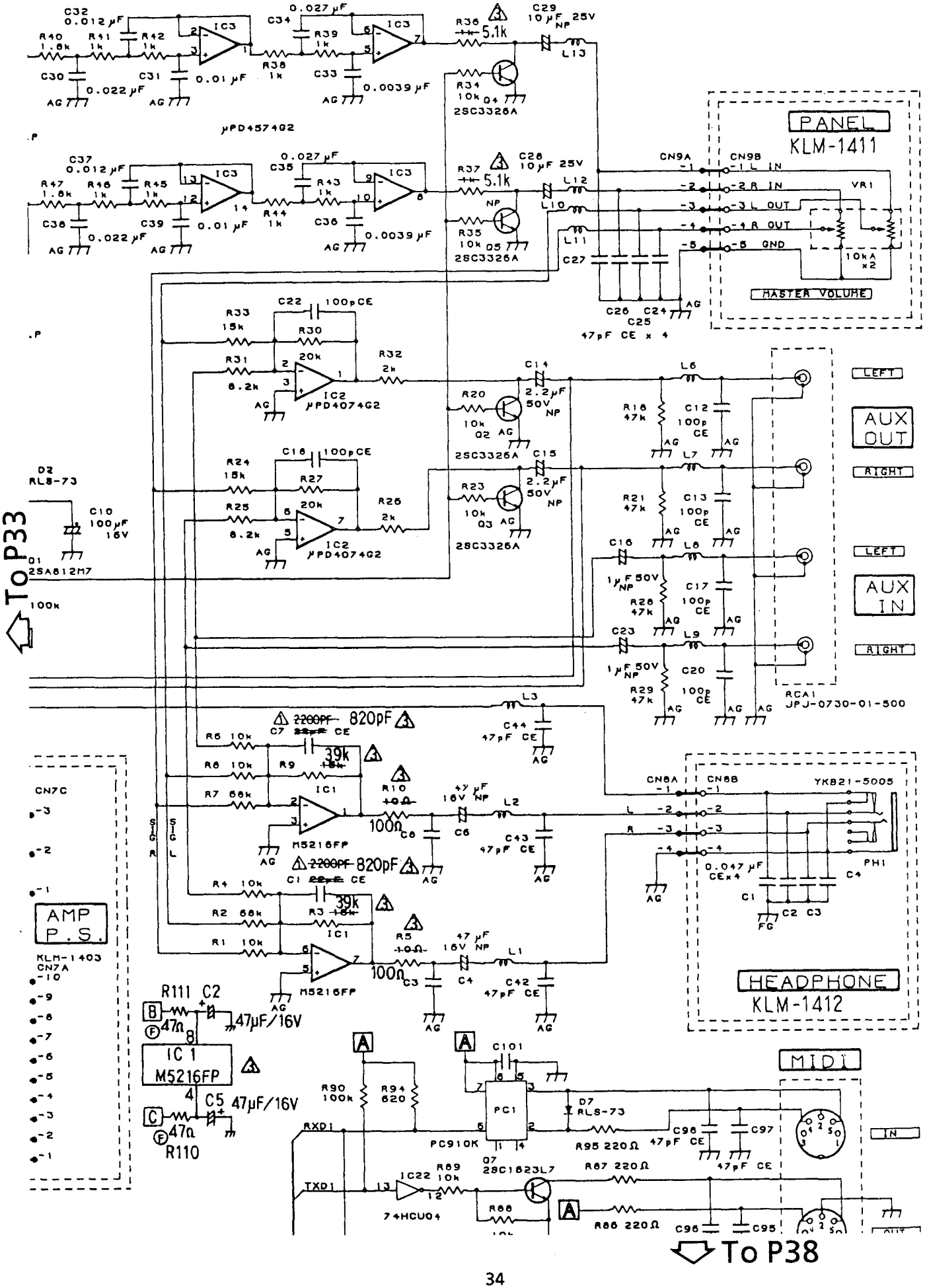
①

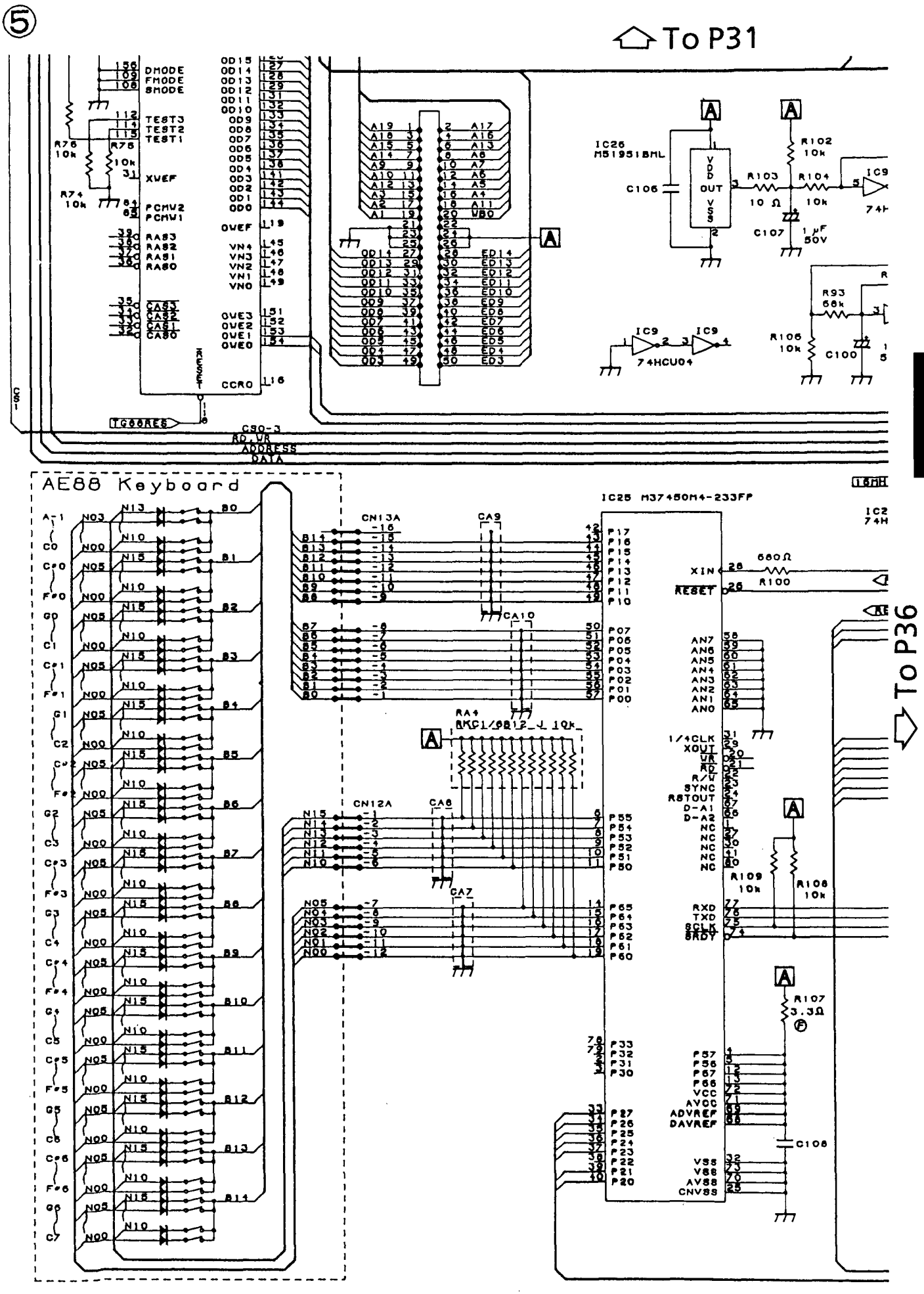

IC13
M867726
32MHz
R78
150Ω
NFV619-655 T2A 506
16MHz
LC5
RKC1/684 J
RA1
10k
RA2
10k
R77
3.3Ω
R76
10k
R75
10k
R74
10k
C83
XVEF
TEST3
TEST2
TEST1
MMODE
XCRI
VDD
VSS
DMODE
FMODE
SMODE
PCMV2
PCMV1
RAS3
RAS2
RAS1
RAS0
CAS3
CAS2
CAS1
CAS0
XCSI
XVRI
XRDI
EVD15
EVD14
EVD13
EVD12
EVD11
EVD10
EVD9
EVD8
EVD7
EVD6
EVD5
EVD4
EVD3
EVD2
EVD1
EVD0
OVD15
OVD14
OVD13
OVD12
OVD11
OVD10
OVD9
OVD8
OVD7
OVD6
OVD5
OVD4
OVD3
OVD2
OVD1
OVD0
OVEF
VN4
VN3
VN2
VN1
VN0
OVE3
OVE2
OVE1
OVE0
CCRO
TG68RES
CS0-3
RD,WR
ADDRESS
DATA
VB0 μPD23C4001EGW-313
IC19
μPD23C4001EGW-312
IC18
C89
C88
IC22
74HCU04
To P32
IC26
M51951BML
C106
R102
10k
R103
10Ω
R104
10k
C107
1μF
50V
IC9
74HCU04
R93
68k
R106
10k
C100
AE68 Keyboard
IC25 M37450M4-233FP
CN13A
CA9
To P35

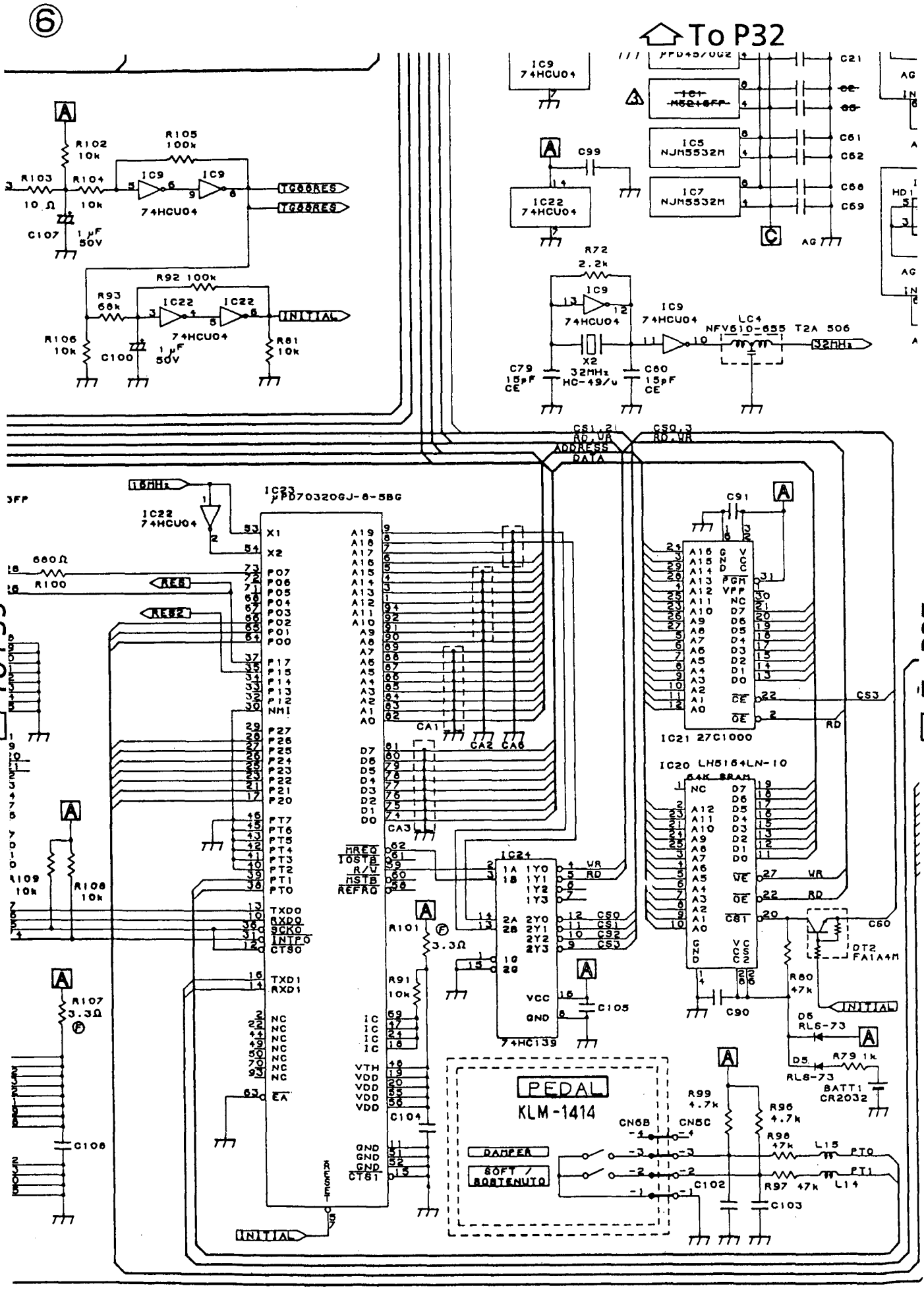
②

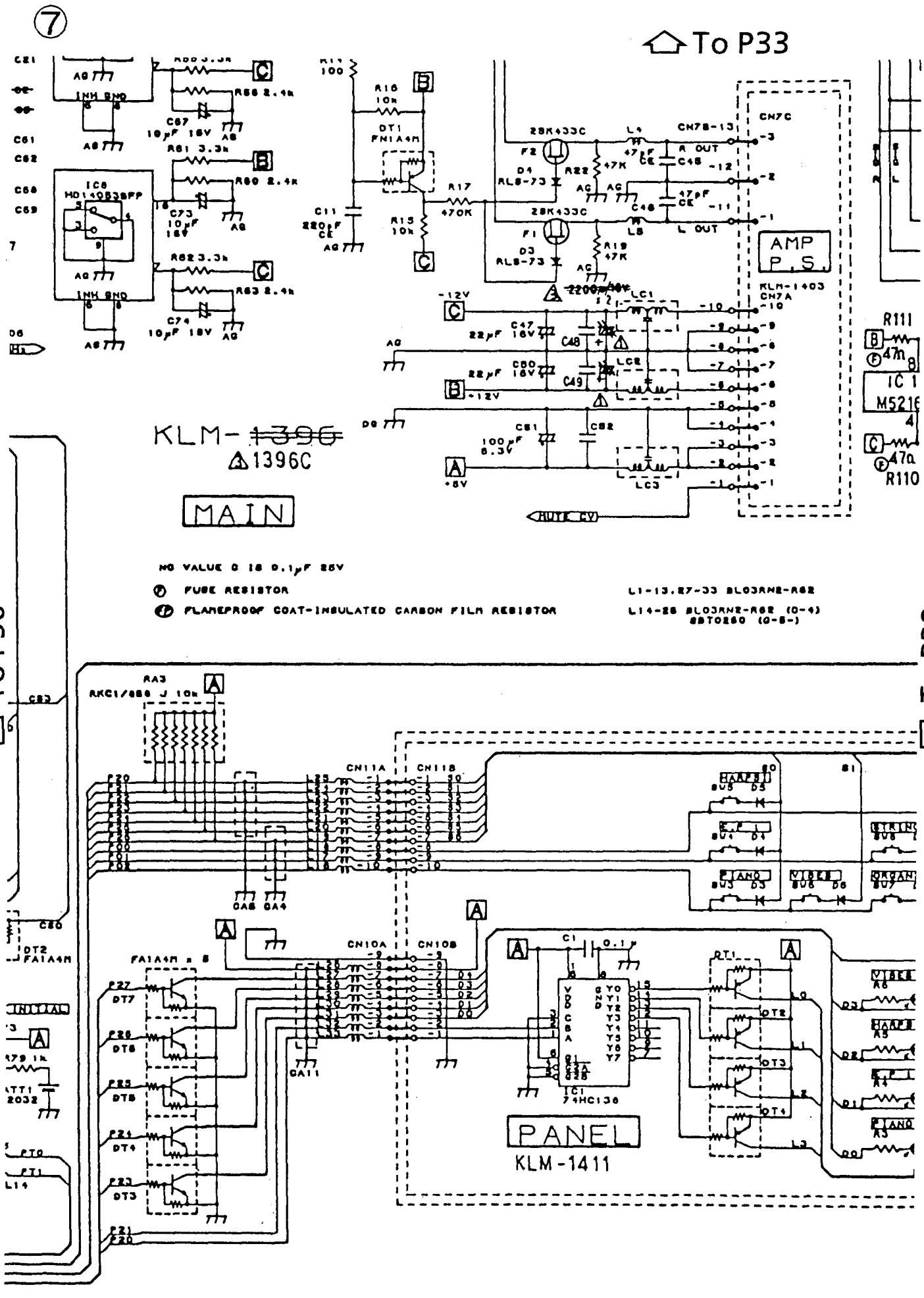

To P31
To P33
To P36
IC17
μPD23C4001EGW-311
IC12
μPD65012GF-A15
16MHz
C66
C67
R73
3.3Ω
C62
R71
3.3Ω
C61
IC9
74HCU04
IC3
μPD4574G2
IC2
μPD4570G2
IC5
NJM5532M
IC7
NJM5532M
C40
C41
C19
C21
C61
C62
C68
C69
C99
IC22
74HCU04
R72
2.2k
LC4
NFV610-655 T2A 506
32MHz
X2
32MHz
HC-49/u
C79
15pF
CE
C80
15pF
CE
R102
10k
R105
100k
R103
10Ω
R104
10k
C107
1μF
50V
TG66RES
INITIAL
R92 100k
R93
68k
R106
10k
C100
1μF
50V
R81
10k
IC22
74HCU04
IC23
μPD70320GJ-8-5BG
C91
J1
J2
J3
J4
CS2
CS1,2
RD,WR
CS0,3
RD,WR
ADDRESS
DATA

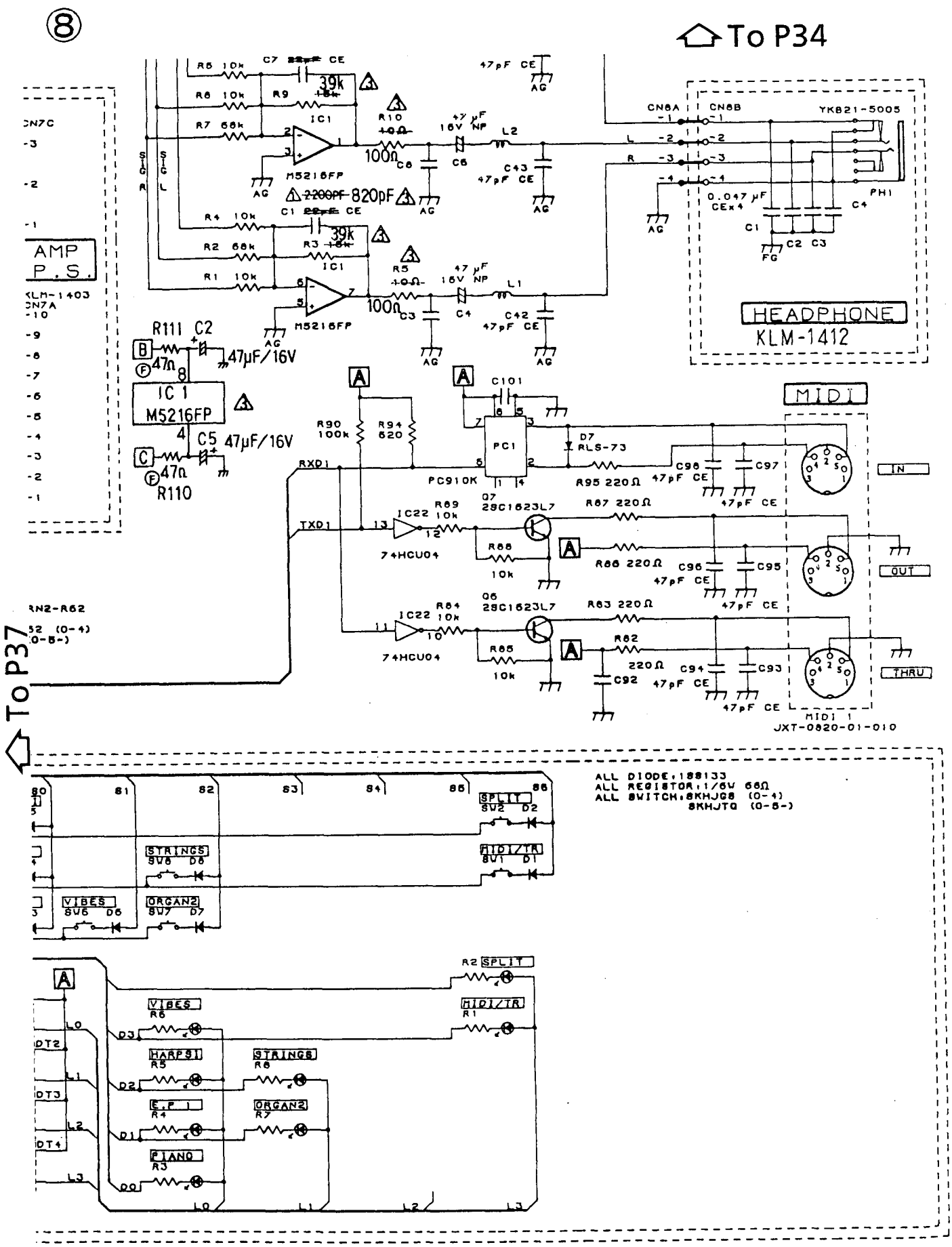

③
To P32
To P34
To P37
MAIN
KLM-1396C
PCM61P
IC4
NJM5532M
IC5
IC7
HD14053BFP
IC6
IC8
MSB ADJ
OFFSET
C.V.
100kB VR2 C.V.
100kB VR1
R67 200k
R65 470k
R66 1M
R64 510k
TP1 D/A OUT
S/H L
S/H R
MUTE CV
R49 390Ω 1/6W
R48 1k 1/6W
ZD3 RD5.1 LB1
ZD2 RD5.1 LB1
D1 RLS-73
D2 RLS-73
Q1 2SA812M7
R11 1M
R13 3.3k
C10 100μF 16V
R12 100k
C9 1μF 50V
R14 100
R16 10k
DT1 FN1A4M
R17 470K
R15 10k
C11 220pF CE
2SK433C
F1
F2
D3 RLS-73
D4 RLS-73
R22 47K
R19 47K
L4
L5
47pF CE
R OUT
L OUT
CN7C
CN7A
KLM-1403
AMP P.S.
LC1
LC2
LC3
C47 22μF 16V
C48
C49
C50 22μF 16V
C51 100μF 6.3V
C52
+12V
-12V
+5V
AG
DG
INH GND
R53 2.4k
R54 3.3k
R55 3.3k
R56 2.4k
R60 2.4k
R61 3.3k
R62 3.3k
R63 2.4k
C66 10μF 16V
C67 10μF 16V
C73 10μF 16V
C74 10μF 16V
J1
J2
506 2MHz

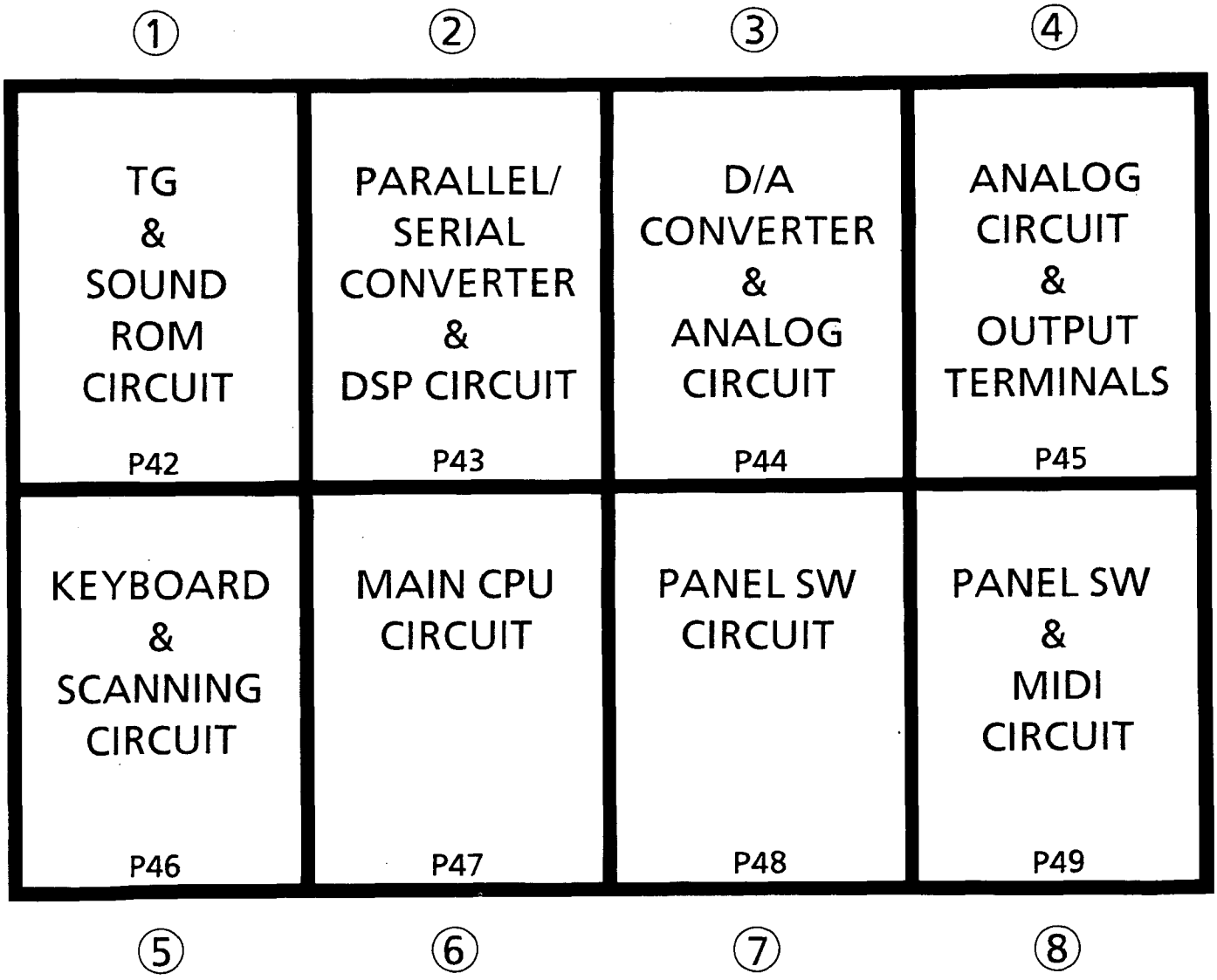

PANEL
KLM-1411
MASTER VOLUME
HEADPHONE
KLM-1412
AMP
P.S.
MIDI
IN
OUT
LEFT
RIGHT
AUX OUT
AUX IN
To P33
To P38
μPD4574G2
M5216FP
2SC3326A
2SA812M7
RL8-73
RLS-73
PC910K
2SC1623L7
74HCU04
RCA1
JPJ-0730-01-500
YKB21-5005
PH1
CN9A
CN9B
CN7C
CN7A
CN6A
CN6B
VR1
10kA x2
820pF
39k
100Ω
47μF/16V
IC 1
M5216FP
R111 C2
R110
C5 47μF/16V


⑤
To P31
AE88 Keyboard
IC25 M51951BML
IC25 M37450M4-233FP
74HCU04
To P36
TG88RES
CS0-3
RD,WR
ADDRESS
DATA

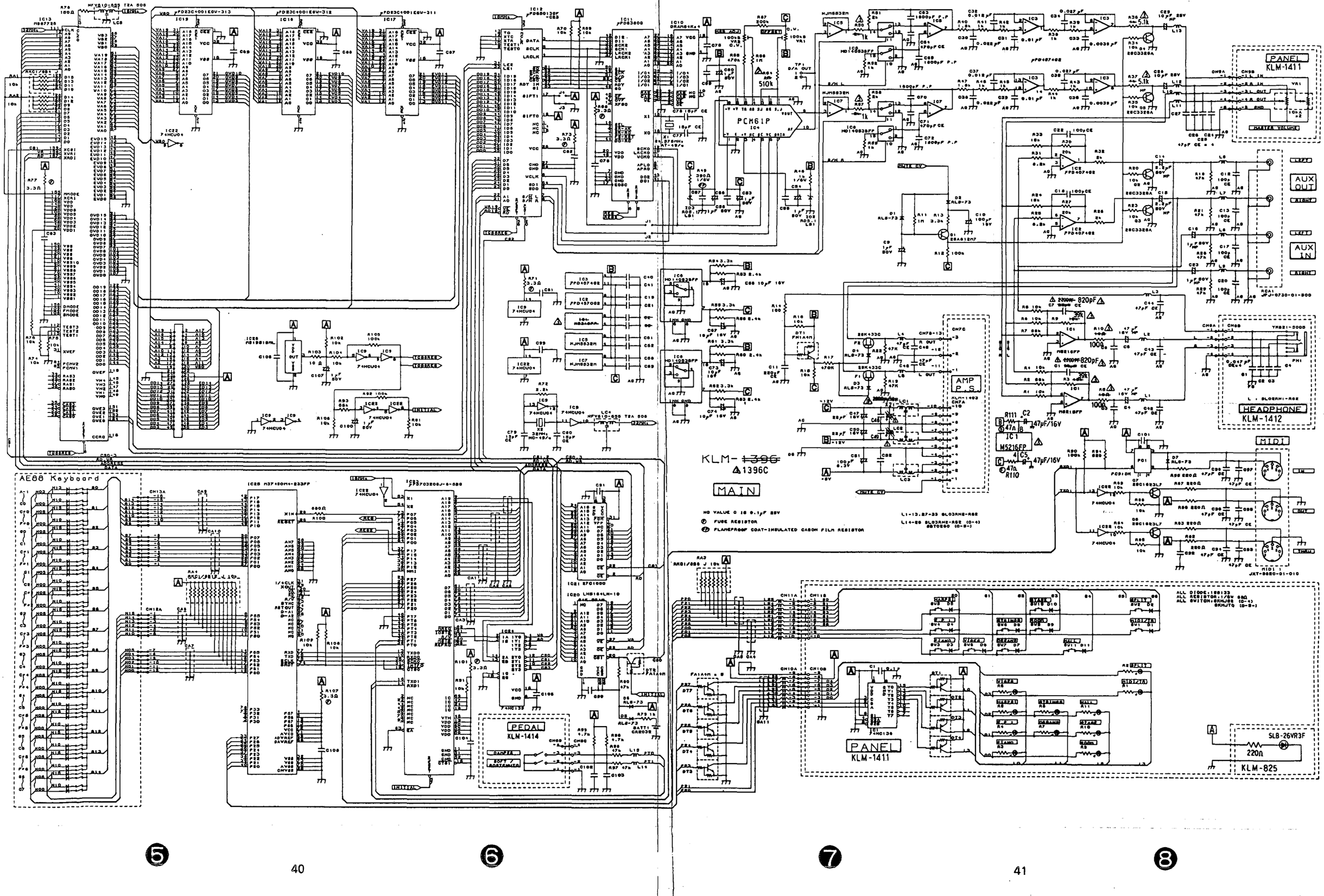

⑥
To P32
To P35
To P37
IC9 74HCU04
IC22 74HCU04
IC5 NJM5532M
IC7 NJM5532M
C99
C21
C61
C62
C68
C69
R72 2.2k
X2 32MHz HC-49/U
C79 15pF CE
C80 15pF CE
LC4 NFV610-655 T2A 506
R102 10k
R105 100k
R103 10Ω
R104 10k
C107 1μF 50V
TG60RES
R92 100k
R93 68k
R106 10k
C100 1μF 50V
R81 10k
INITIAL
IC23 μPD70320GJ-8-5BG
15MHz
IC22 74HCU04
660Ω R100
RES
RES2
P07 P06 P05 P04 P03 P02 P01 P00
P17 P15 P14 P13 P12 NMI
P27 P26 P25 P24 P23 P22 P21 P20
PT7 PT6 PT5 PT4 PT3 PT2 PT1 PT0
TXD0 RXD0 SCKO INTP0 CTS0
TXD1 RXD1
NC NC NC NC NC NC NC
EA
VTH VDD VDD VDD VDD
GND GND GND CTS1
RESET
A19 A18 A17 A16 A15 A14 A13 A12 A11 A10 A9 A8 A7 A6 A5 A4 A3 A2 A1 A0
D7 D6 D5 D4 D3 D2 D1 D0
CA1 CA2 CA6 CA3
HREQ IOSTB R/W MSTB REFRQ
R109 10k
R108 10k
R107 3.3Ω
C106
R101 3.3Ω
R91 10k
C104
IC24
74HC139
VCC GND
C105
C91
IC21 27C1000
A16 A15 A14 A13 A12 A11 A10 A9 A8 A7 A6 A5 A4 A3 A2 A1 A0
D7 D6 D5 D4 D3 D2 D1 D0
PGM VPP NC CE OE
CS3 RD
IC20 LH5164LN-10
64K SRAM
NC A12 A11 A10 A9 A8 A7 A6 A5 A4 A3 A2 A1 A0
D7 D6 D5 D4 D3 D2 D1 D0
WE OE CS1 CS2
WR RD
C90
C60
DT2 FA1A4M
R80 47k
INITIAL
D6 RL6-73
D5 RL6-73
R79 1k
BATT1 CR2032
PEDAL
KLM-1414
DAMPER
SOFT / SOSTENUTO
CN6B CN6C
R99 4.7k
R96 4.7k
R98 47k
R97 47k
L15 PTO
L14 PT1
C102
C103
CS1,2 RD,WR
CS0,3 RD,WR
ADDRESS
DATA


⑦
To P33
To P36
To P38
KLM-1396
⚠1396C
MAIN
AMP P.S.
KLM-1403
PANEL
KLM-1411
NO VALUE Ω 1Ω 0.1μF 25V
FUSE RESISTOR
FLAMEPROOF COAT-INSULATED CARBON FILM RESISTOR
L1-13,27-33 BL03RN2-R62
L14-26 BL03RN2-R62 (0-4)
BBT0260 (0-8-)

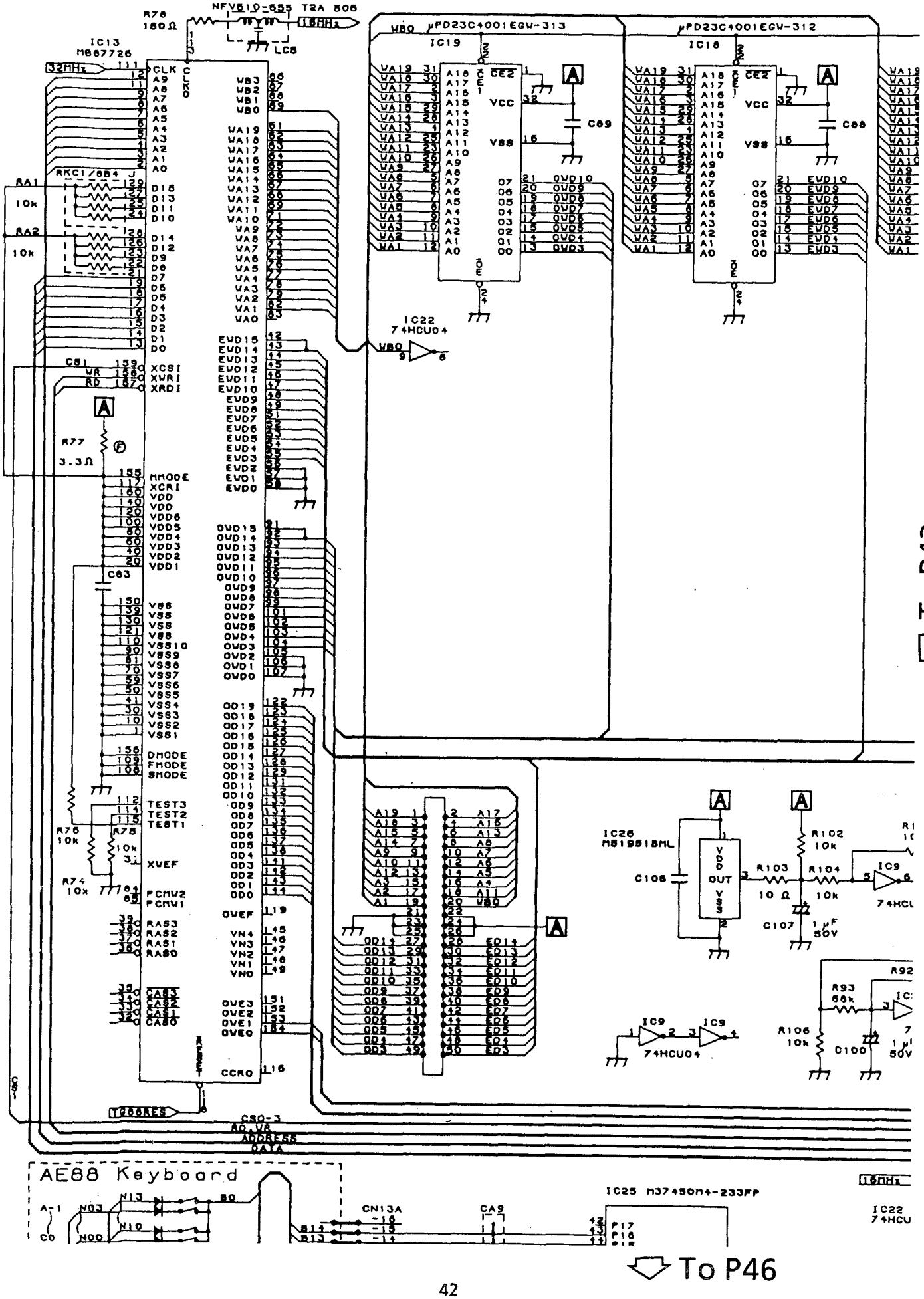

⑧
To P34
To P37
AMP
P.S.
HEADPHONE
KLM-1412
MIDI
IN
OUT
THRU
IC 1
M5216FP
R111 C2
47µF/16V
C5 47µF/16V
R110
74HCU04
PC910K
2SC1623L7
RLS-73
YK821-5005
JXT-0820-01-010
ALL DIODE:1SS133
ALL REGISTOR:1/6W 68Ω
ALL SWITCH:SKHJG8 (0-4)
SKHJTQ (0-5-)
SPLIT
MIDI/TR
STRINGS
VIBES
ORGAN2
HARPSI
E.P 1
PIANO

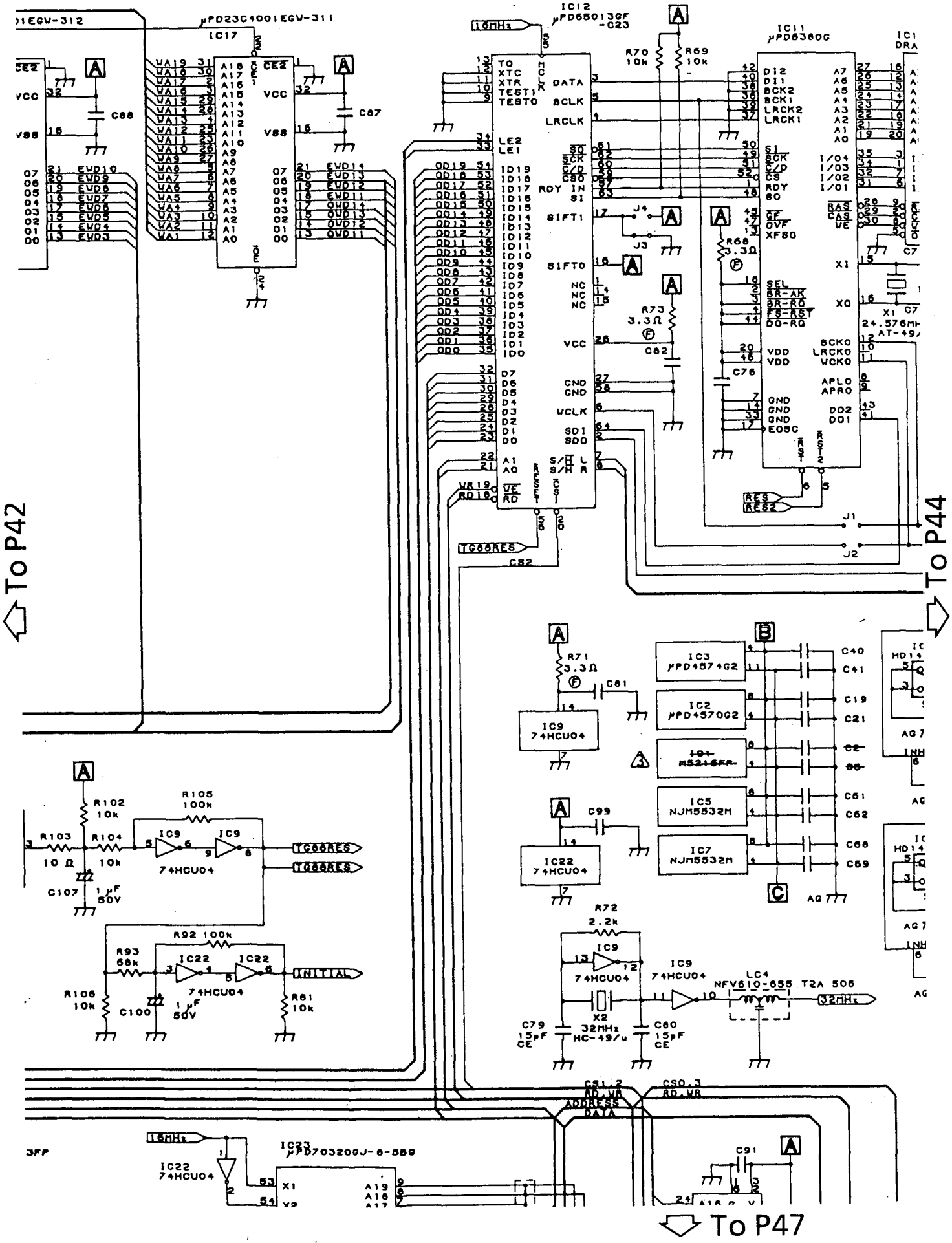

①
②
③
④
TG & SOUND ROM CIRCUIT
P42
PARALLEL/ SERIAL CONVERTER & DSP CIRCUIT
P43
D/A CONVERTER & ANALOG CIRCUIT
P44
ANALOG CIRCUIT & OUTPUT TERMINALS
P45
KEYBOARD & SCANNING CIRCUIT
P46
MAIN CPU CIRCUIT
P47
PANEL SW CIRCUIT
P48
PANEL SW & MIDI CIRCUIT
P49
⑤
⑥
⑦
⑧

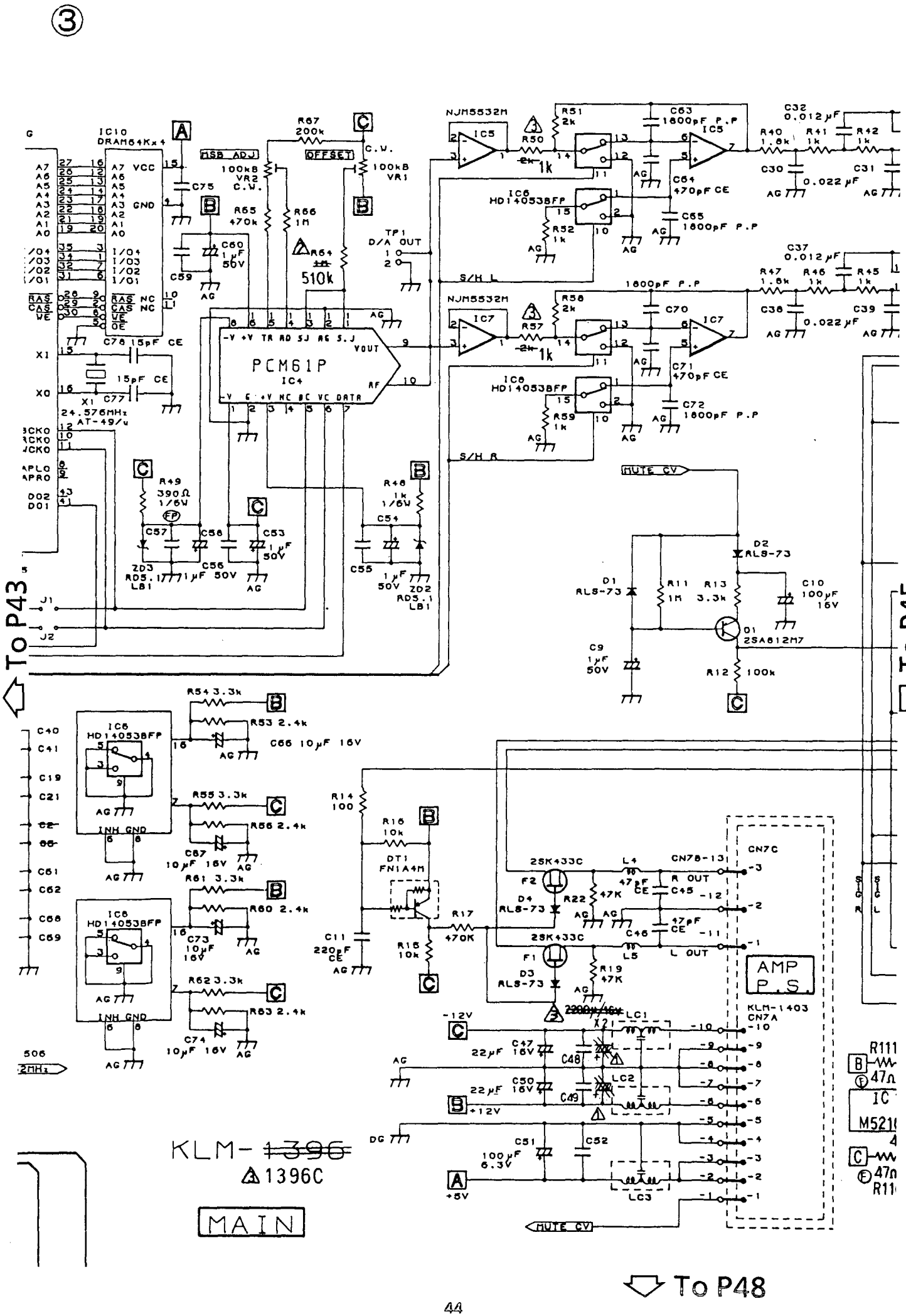
❶ ❷ ❸ ❹


KLM-1396
1396C
MAIN
PCM61P
AMP P.S
PANEL KLM-1411
HEADPHONE KLM-1412
AUX OUT
AUX IN
MIDI
PEDAL KLM-1414
PANEL KLM-1411
KLM-825
AE88 Keyboard

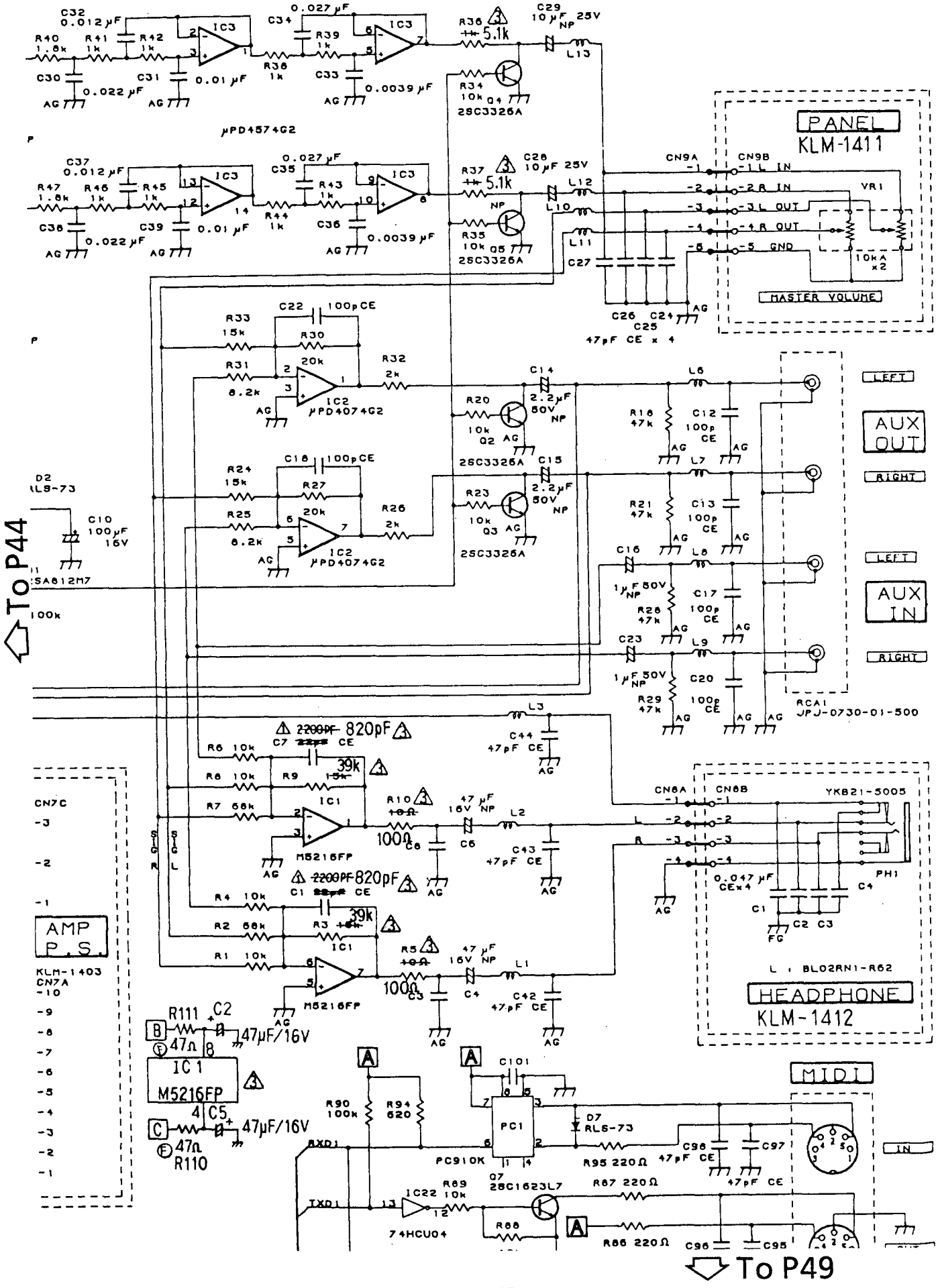
❺ ❻ ❼ ❽

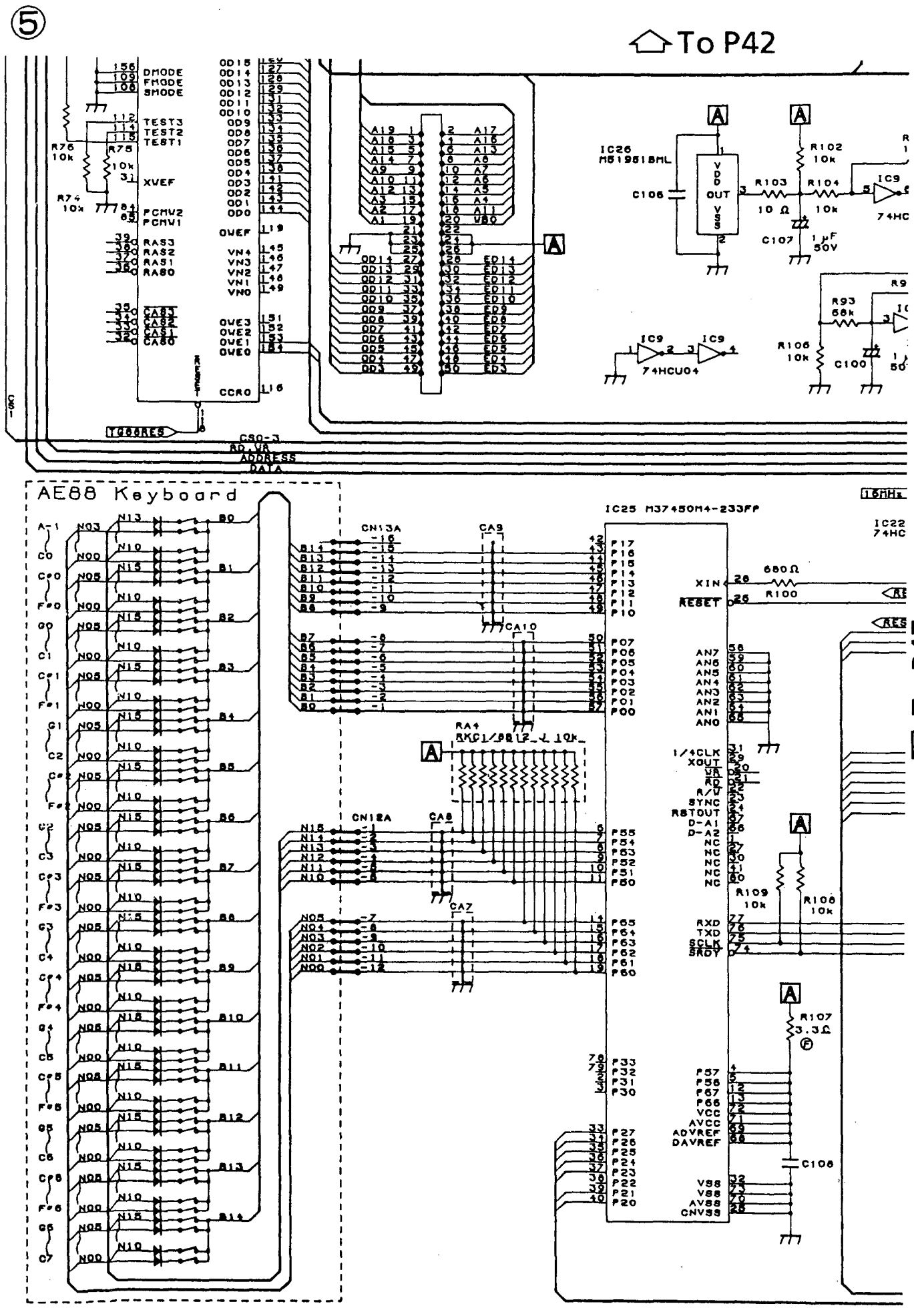

IC13
M867726
32MHz
16MHz
R76
150Ω
NFV810-655 T2A 506
LC5
IC19
μPD23C4001EGV-313
IC18
μPD23C4001EGV-312
IC22
74HCU04
RKC1/884 J
RA1
10k
RA2
10k
C81
C63
R77
3.3Ω
R75
10k
R74
10k
C69
C68
To P43
IC26
M51951BHL
C106
R102
10k
R103
10Ω
R104
10k
C107
1μF
50V
IC9
74HCU04
R93
68k
R106
10k
C100
AE88 Keyboard
IC25 M37450M4-233FP
CN13A
CA9
To P46

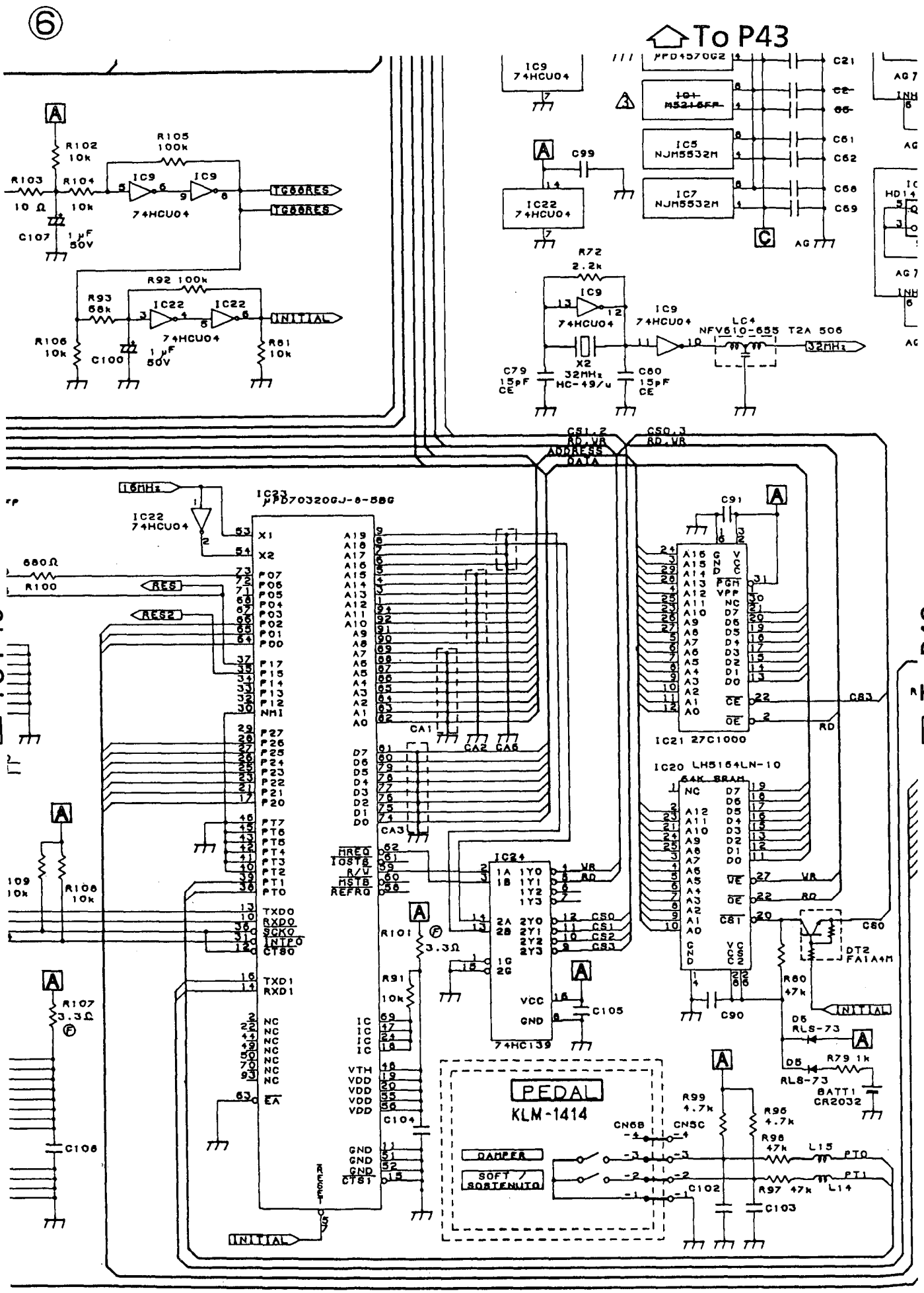

To P42
To P44
To P47
IC17
μPD23C4001EGV-311
IC12
μPD65013GF-C23
IC11
μPD6380G
16MHz
IC9
74HCU04
IC22
74HCU04
IC3
μPD4574G2
IC2
μPD4570G2
IC5
NJM5532M
IC7
NJM5532M
IC23
μPD703200J-8-5BB
TG60RES
INITIAL
32MHz
LC4
NFV610-655 T2A 506
X2
32MHz
HC-49/U
C79 15pF CE
C80 15pF CE
C107 1μF 50V
C100 1μF 50V
R102 10k
R103 10Ω
R104 10k
R105 100k
R106 10k
R61 10k
R92 100k
R93 68k
R69 10k
R70 10k
R71 3.3Ω
R72 2.2k
R73 3.3Ω
R68 3.3Ω
C68
C67
C61
C62
C76
C99
C91
J1
J2
J3
J4
AD.WR
ADDRESS
DATA
RD.WR

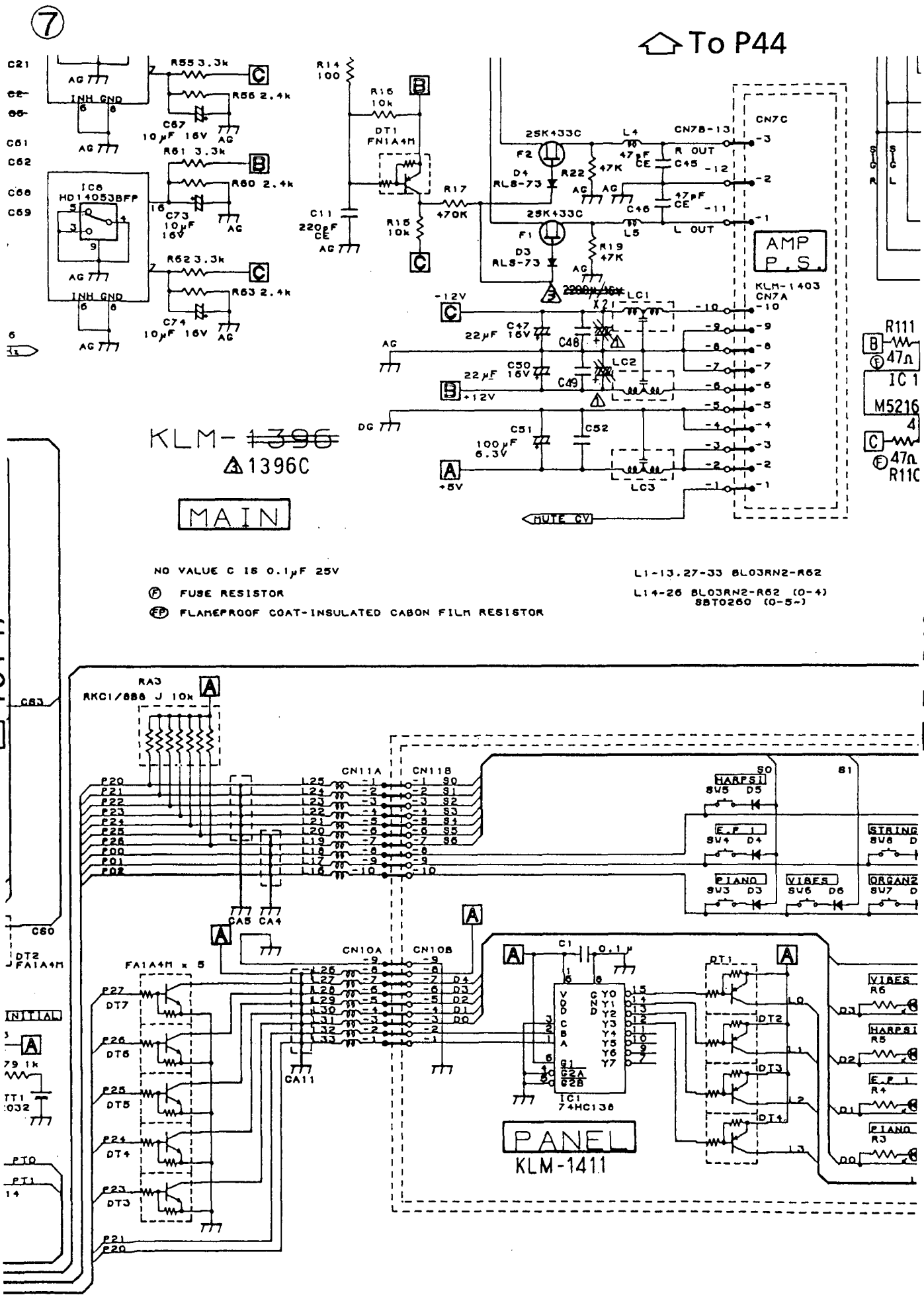

③
IC10 DRAM64Kx4
MSB ADJ
OFFSET
C.V.
PCM61P
IC4
NJM5532M
IC5
IC7
IC6 HD14053BFP
TP1 D/A OUT
S/H L
S/H R
MUTE CV
To P43
To P45
To P48
AMP P.S.
KLM-1403 CN7A
CN7C
2SK433C
RLS-73
2SA812M7
MAIN
KLM- 1396
1396C

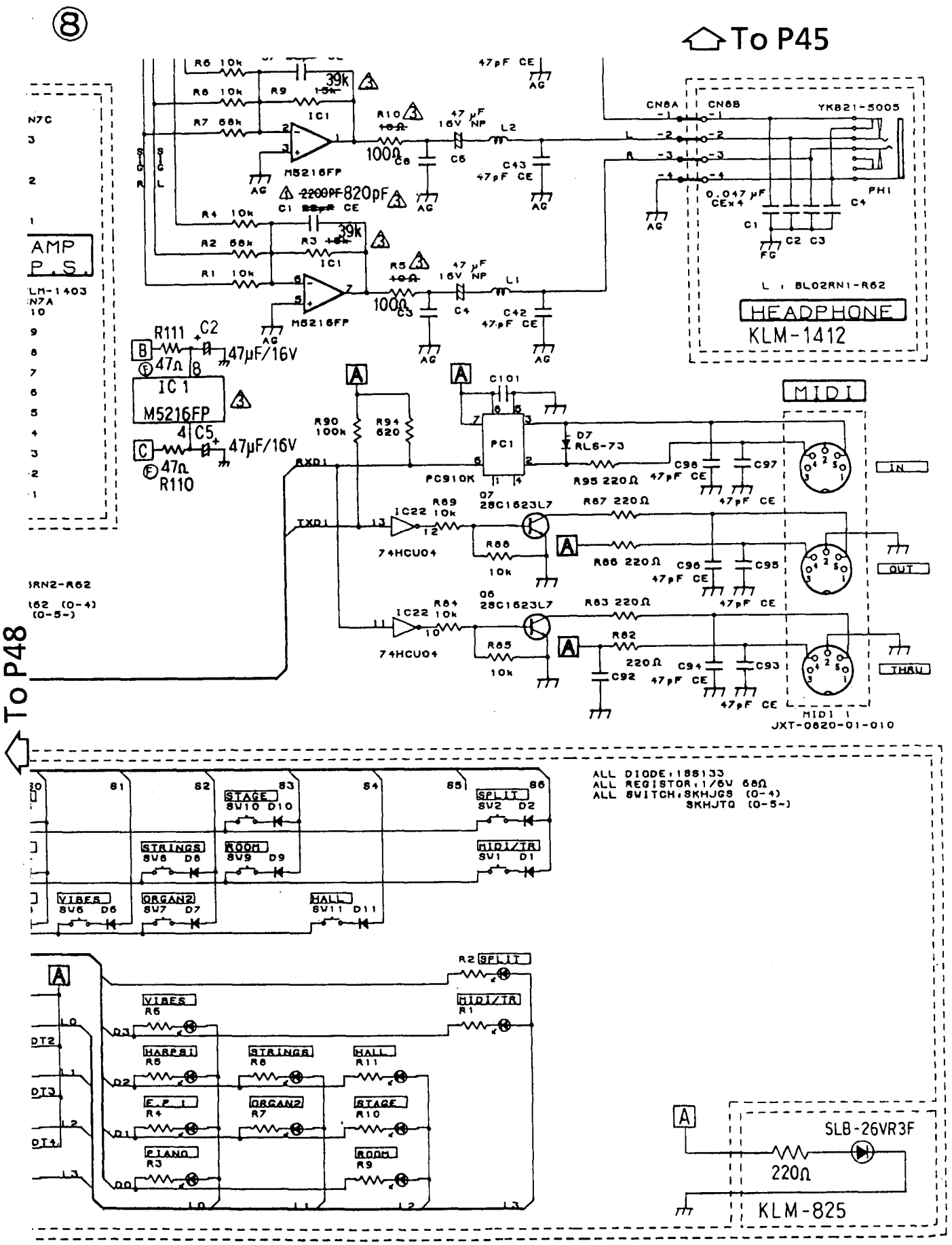
④

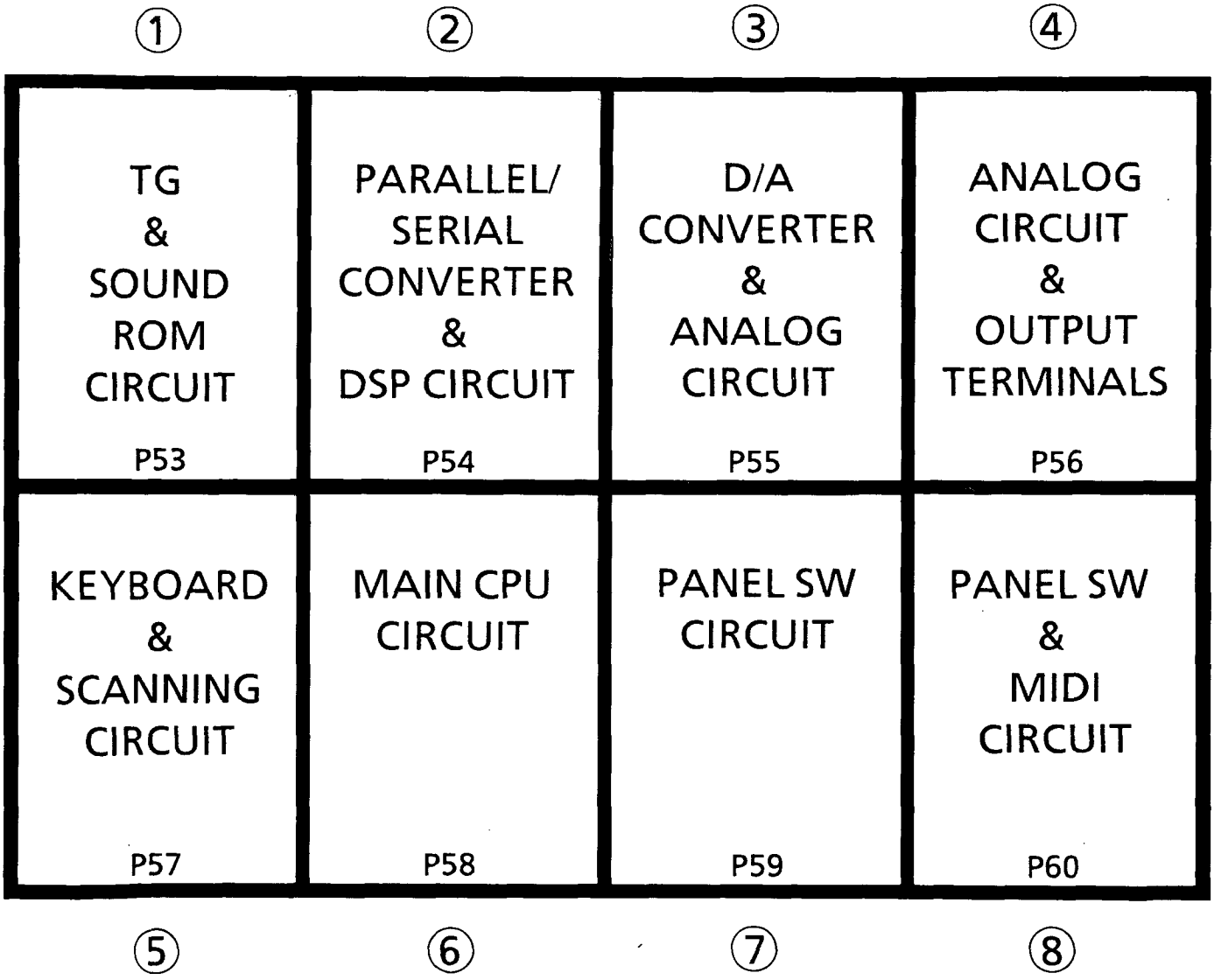

PANEL
KLM-1411
MASTER VOLUME
HEADPHONE
KLM-1412
MIDI
To P44
To P49
AMP
P.S.
KLM-1403
IC1
M5216FP
IC2
μPD4074G2
IC3
μPD4574G2
2SC3326A
2SC1623L7
PC910K
74HCU04
RCA1
JPJ-0730-01-500
YKB21-5005
LEFT
RIGHT
AUX OUT
AUX IN
IN
CN9A
CN9B
CN6A
CN6B
CN7C
CN7A
VR1
L R IN
L R OUT
GND
820pF
39k
47μF/16V
100Ω
10k×2


⑤
To P42
AE88 Keyboard
IC25 M37450M4-233FP
IC26 M51951BML
IC9 74HCU04
IC22 74HC
16MHz
XIN
RESET
680Ω
R100
R102 10k
R103 10Ω
R104 10k
C106
C107 1μF 50V
R93 68k
R106 10k
C100
R109 10k
R108 10k
R107 3.3Ω
C108
CN13A
CN12A
CA9
CA10
CA8
CA7
RA4
RXD
TXD
SCLK
SRDY
DMODE
FMODE
SMODE
TEST3
TEST2
TEST1
XVEF
PCMV2
PCMV1
RAS3
RAS2
RAS1
RAS0
CAS3
CAS2
CAS1
CAS0
OWE3
OWE2
OWE1
OWE0
CCR0
TG68RES
CS0-3
RD,WR
ADDRESS
DATA
To P47

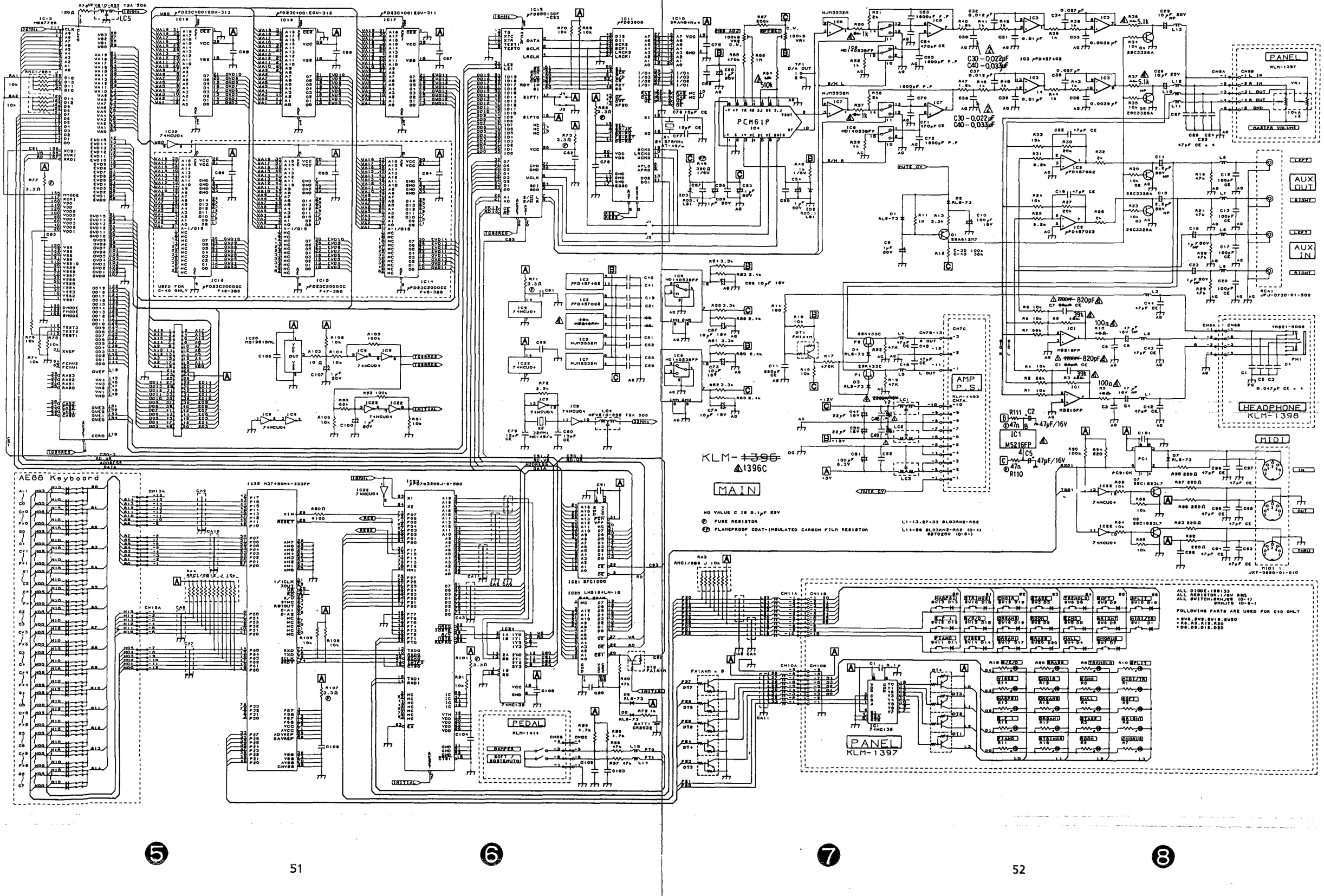

⑥
To P43
To P46
To P48
IC9 74HCU04
IC22 74HCU04
IC5 NJM5532M
IC7 NJM5532M
R102 10k
R103 10Ω
R104 10k
R105 100k
C107 1μF 50V
TG66RES
R92 100k
R93 68k
R106 10k
C100 1μF 50V
R81 10k
INITIAL
R72 2.2k
X2 32MHz HC-49/u
C79 15pF CE
C80 15pF CE
LC4 NFV610-655 T2A 506
32MHz
CS1,2 RD,WR ADDRESS DATA
CS0,3 RD,WR
IC23 μPD703200GJ-8-5BG
15MHz
680Ω R100
RES
RES2
IC21 27C1000
IC20 LH5164LN-10 64K SRAM
IC24 74HC139
R101 3.3Ω
R91 10k
R107 3.3Ω
C106
C104
C105
C90
C91
C103
R108 10k
R109 10k
R80 47k
DT2 FA1A4M
D5 RLS-73
R79 1k
RL8-73
BATT1 CR2032
R99 4.7k
R96 4.7k
R98 47k
R97 47k
L15
L14
PTO
PT1
PEDAL
KLM-1414
DAMPER
SOFT / SOSTENUTO
CN6B
CN5C
C102
RESET


⑦
To P44
To P47
To P49
KLM-1396
⚠1396C
MAIN
AMP P.S.
KLM-1403
CN7A
CN7C
IC6
HD14053BFP
DT1
FN1A4M
2SK43OC
RLS-73
IC1
M5216
4
R111
47Ω
R110
NO VALUE C IS 0.1μF 25V
Ⓕ FUSE RESISTOR
ⒻⓅ FLAMEPROOF COAT-INSULATED CABON FILM RESISTOR
L1-13.27-33 BL03RN2-R62
L14-26 BL03RN2-R62 (0-4)
SBT0260 (0-5-)
RA3
RKC1/888 J 10k
CN11A
CN11B
CN10A
CN10B
FA1A4M x 5
IC1
74HC138
PANEL
KLM-1411
HARPSI
E.P.I
PIANO
VIBES
ORGAN2
STRING
MUTE CV

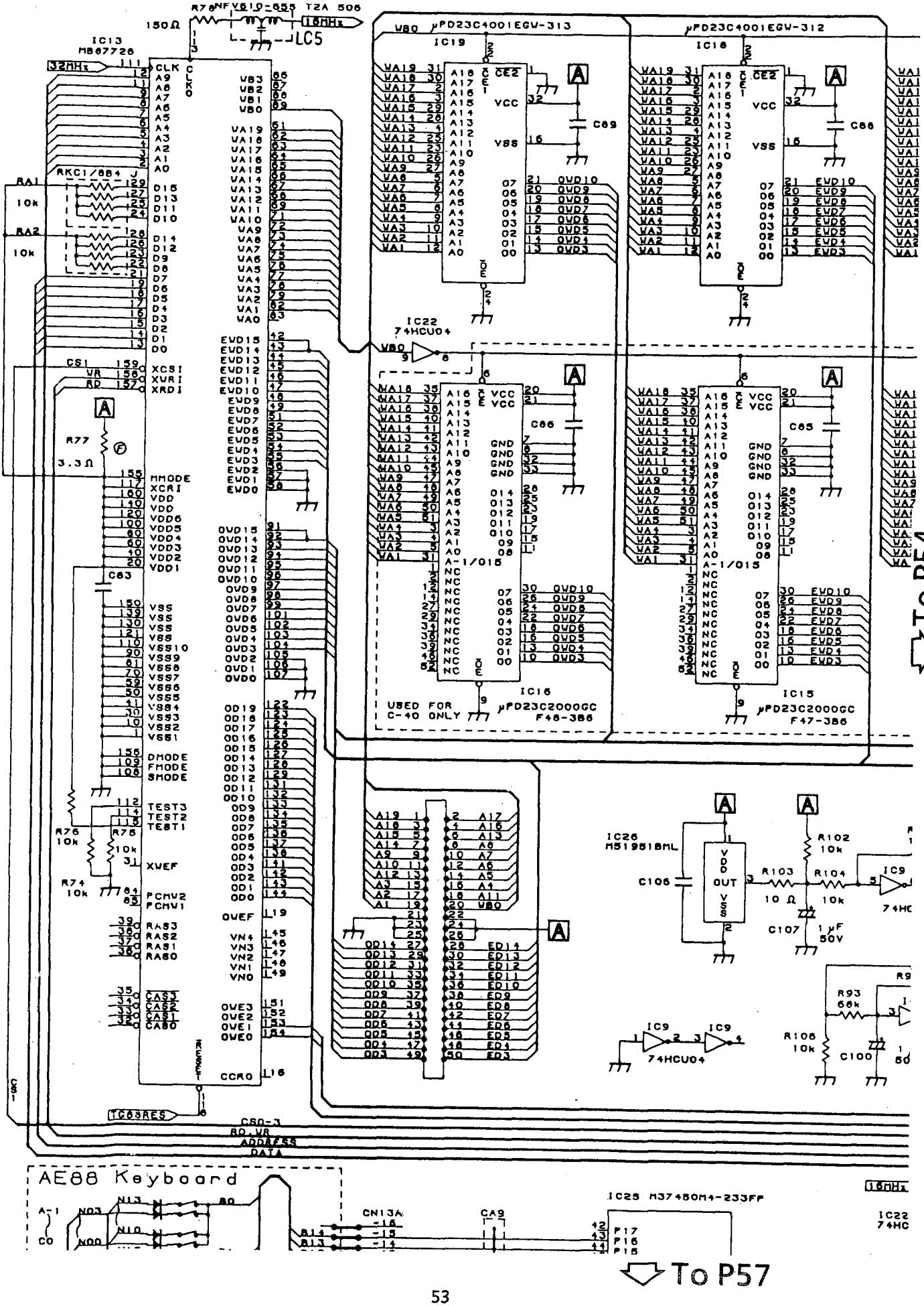

⑧
To P45
To P48
HEADPHONE
KLM-1412
MIDI
IN
OUT
THRU
M5216FP
74HCU04
PC910K
2SC1623L7
RLS-73
STAGE
SPLIT
STRINGS
ROOM
MIDI/TR
VIBES
ORGAN2
HALL
HARPSI
E.P.1
PIANO
SLB-26VR3F
220Ω
KLM-825


①
②
③
④
TG & SOUND ROM CIRCUIT
P53
PARALLEL/ SERIAL CONVERTER & DSP CIRCUIT
P54
D/A CONVERTER & ANALOG CIRCUIT
P55
ANALOG CIRCUIT & OUTPUT TERMINALS
P56
KEYBOARD & SCANNING CIRCUIT
P57
MAIN CPU CIRCUIT
P58
PANEL SW CIRCUIT
P59
PANEL SW & MIDI CIRCUIT
P60
⑤
⑥
⑦
⑧

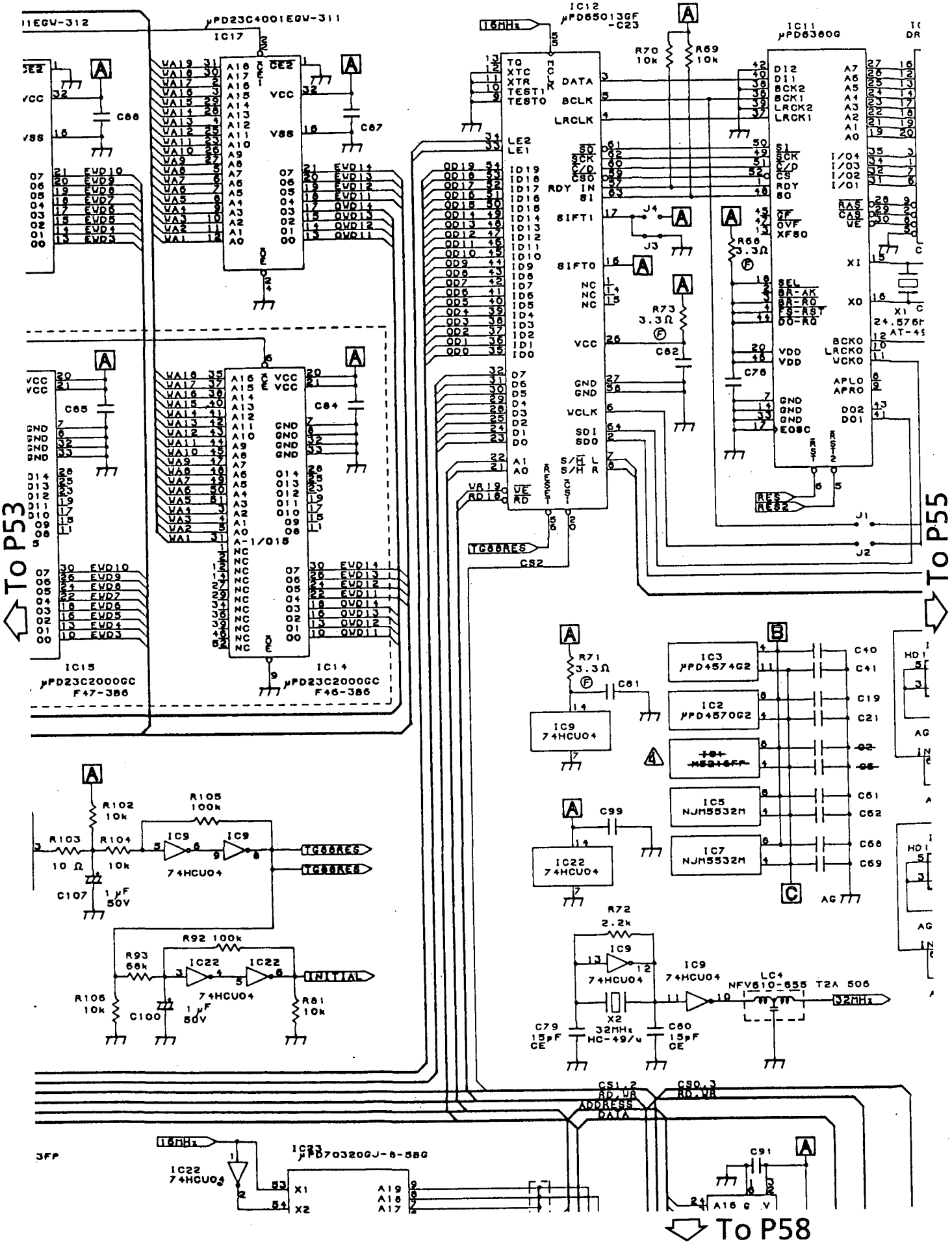
❶ ❷ ❸ ❹

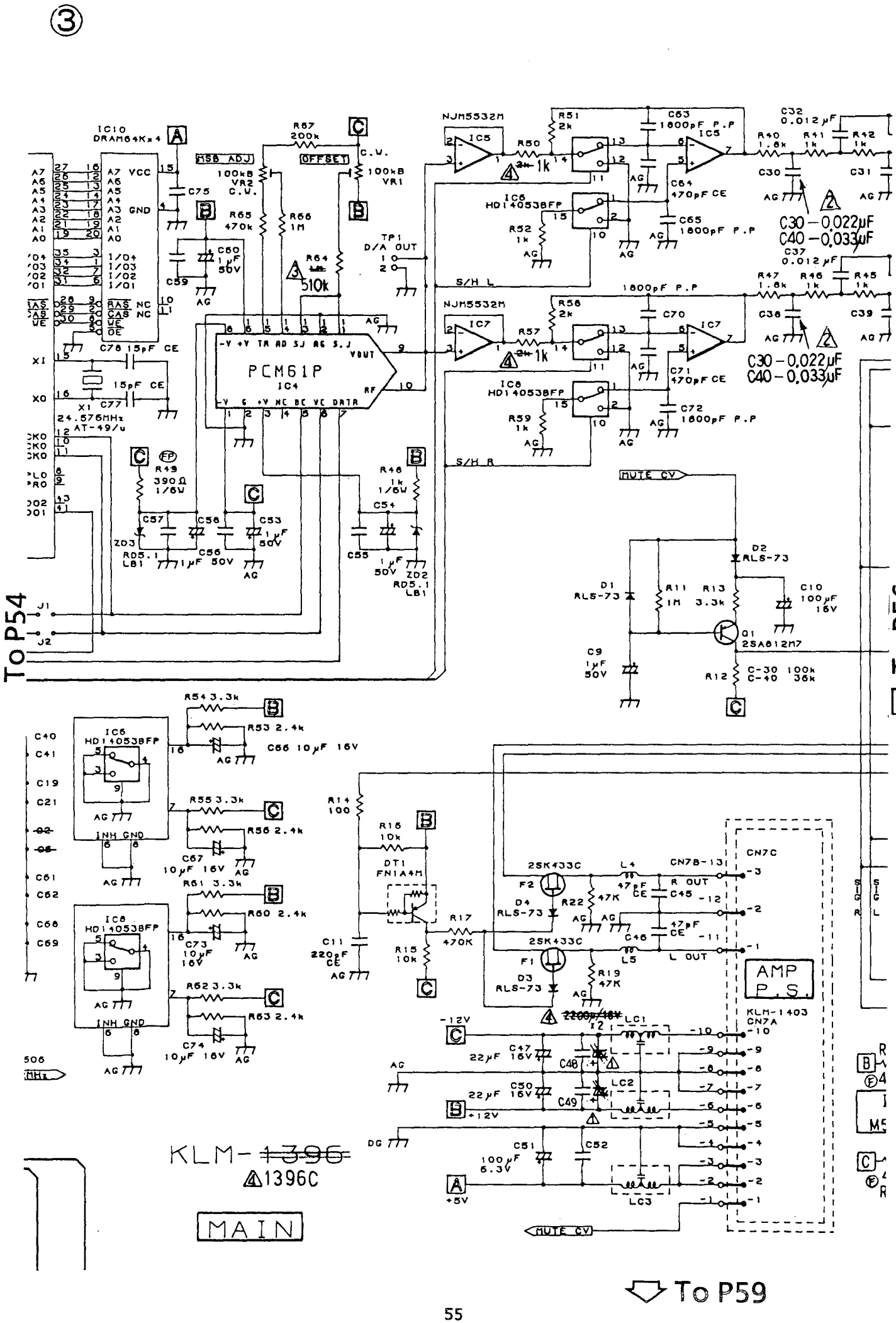

KLM-1396C
MAIN
AE88 Keyboard
PEDAL
KLM-1414
PANEL
KLM-1397
HEADPHONE
KLM-1398
MIDI
AMP P.S
C30 - 0.022μF
C40 - 0.033μF
PCM61P
M5216FP
47μF/16V
AUX OUT
AUX IN
NO VALUE C IS 0.1μF 25V
FUSE RESISTOR
FLAMEPROOF COAT-INSULATED CARBON FILM RESISTOR
FOLLOWING PARTS ARE USED FOR C40 ONLY

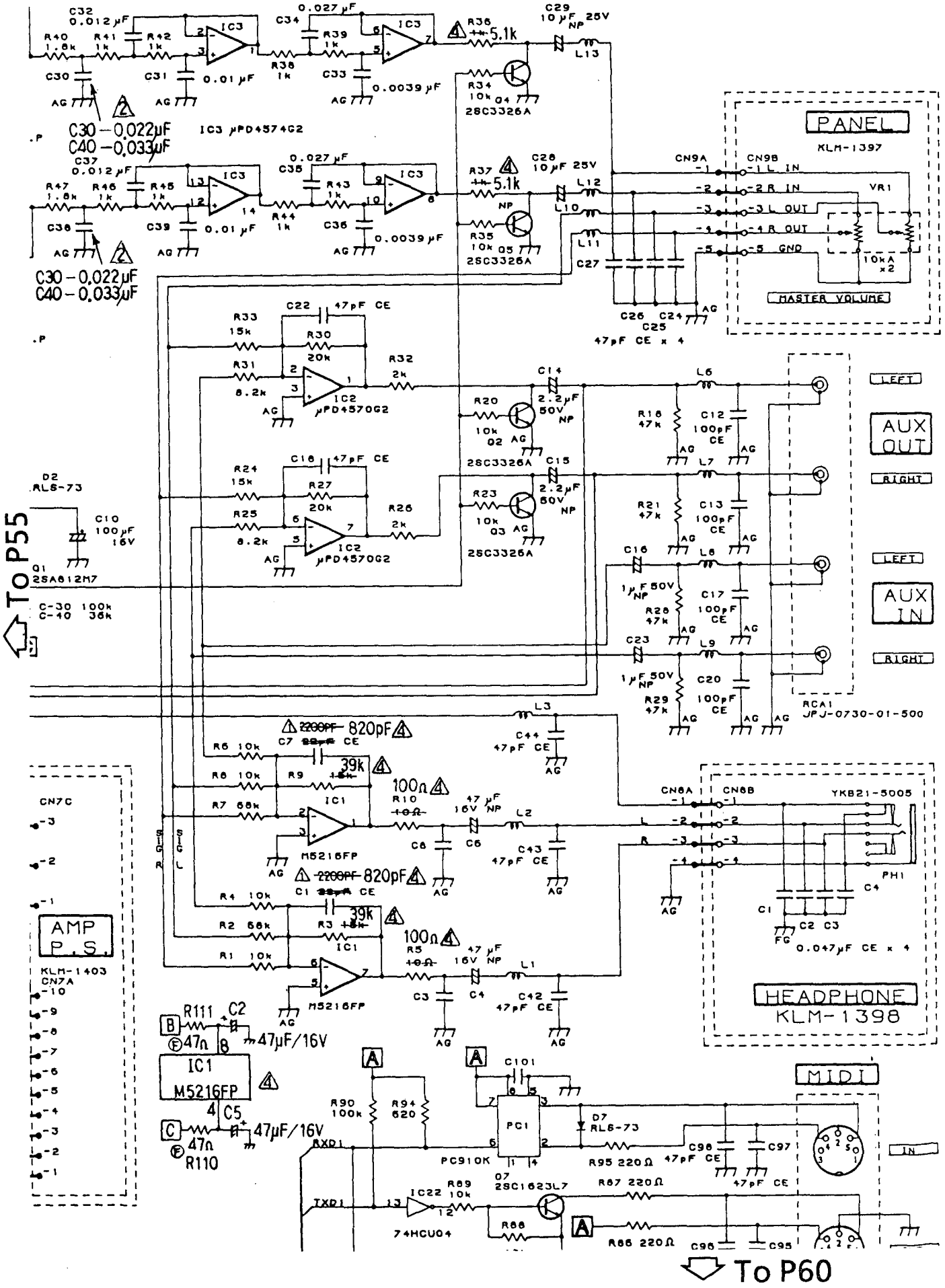
❺ ❻ ❼ ❽

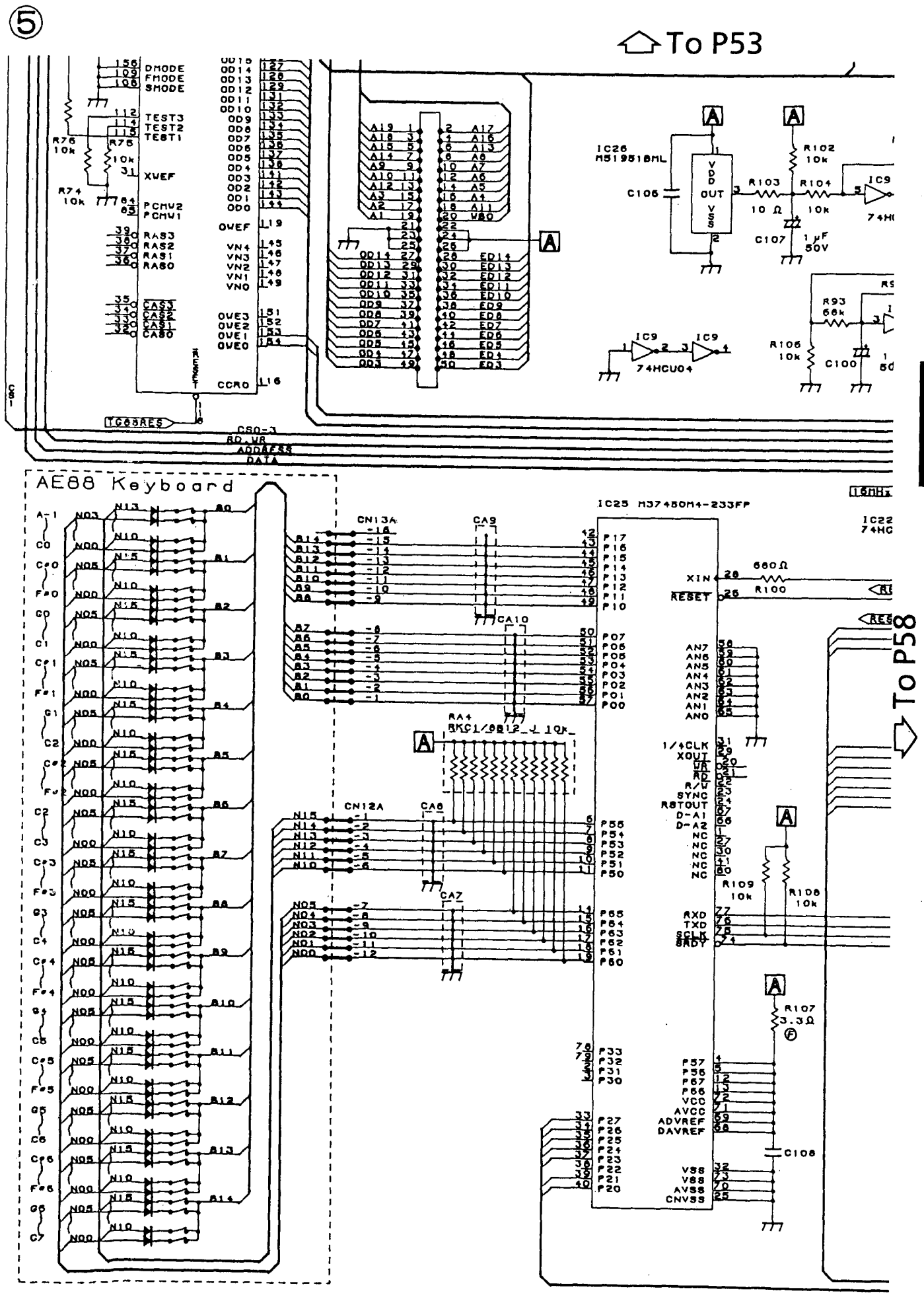

IC13
M867726
32MHz
150Ω
15MHz
LC5
RA1
10k
RA2
10k
RKC1/884 J
R77
3.3Ω
R76
10k
R75
10k
R74
10k
C83
IC19
IC18
IC22
74HCU04
IC16
IC15
μPD23C2000GC
F46-386
F47-386
USED FOR
C-40 ONLY
C65
C66
C69
IC26
M51951BML
C106
R102
10k
R103
10Ω
R104
10k
C107
1μF
50V
IC9
74HCU04
R93
66k
R105
10k
C100
AE88 Keyboard
IC25 M37450M4-233FP
CN13A
CA9
To P54
To P57
TC63RES
CS0-3
RD.WR
ADDRESS
DATA

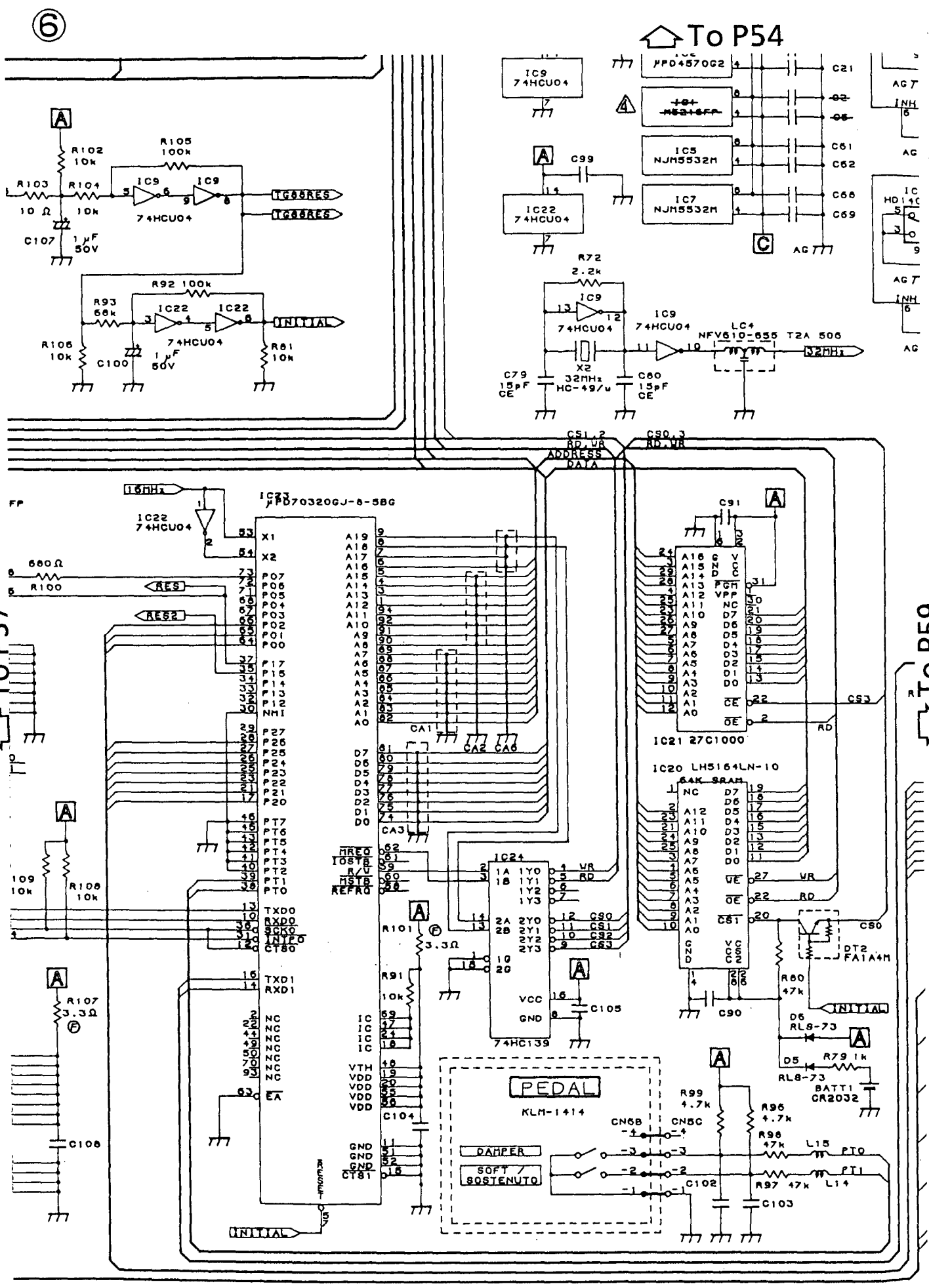
②

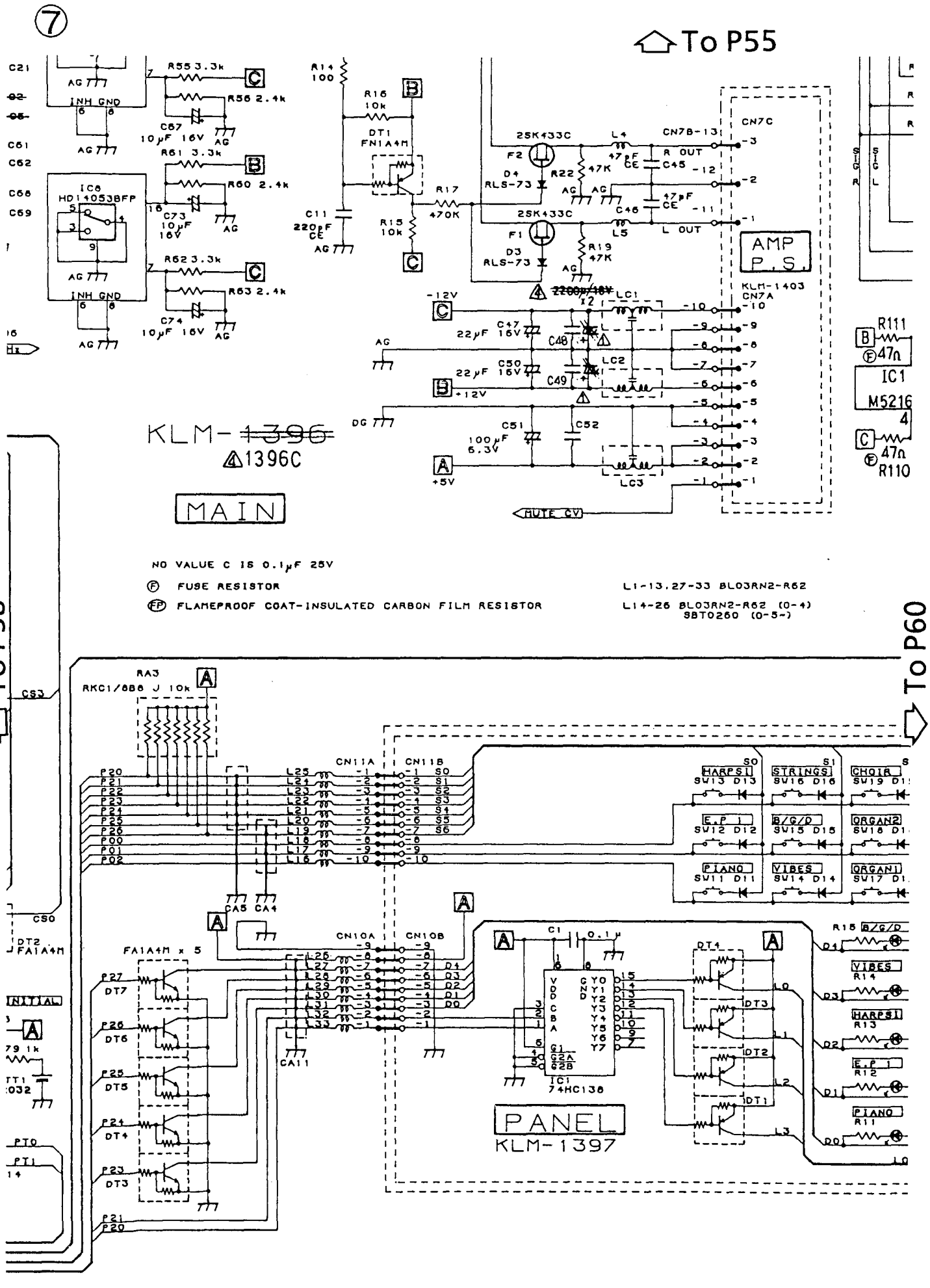

To P53
To P55
To P58
IC17
μPD23C4001EGW-311
IC15
μPD23C2000GC
F47-386
IC14
μPD23C2000GC
F46-386
IC12
μPD65013GF
-C23
IC11
μPD6360G
IC3
μPD4574G2
IC2
μPD4570G2
IC5
NJM5532M
IC7
NJM5532M
IC9
74HCU04
IC22
74HCU04
IC23
μPD70320GJ-8-5BG
TG68RES
CS2
INITIAL
16MHz
32MHz
ADDRESS
DATA
CS1,2
RD,WR
CS0,3
RD,WR

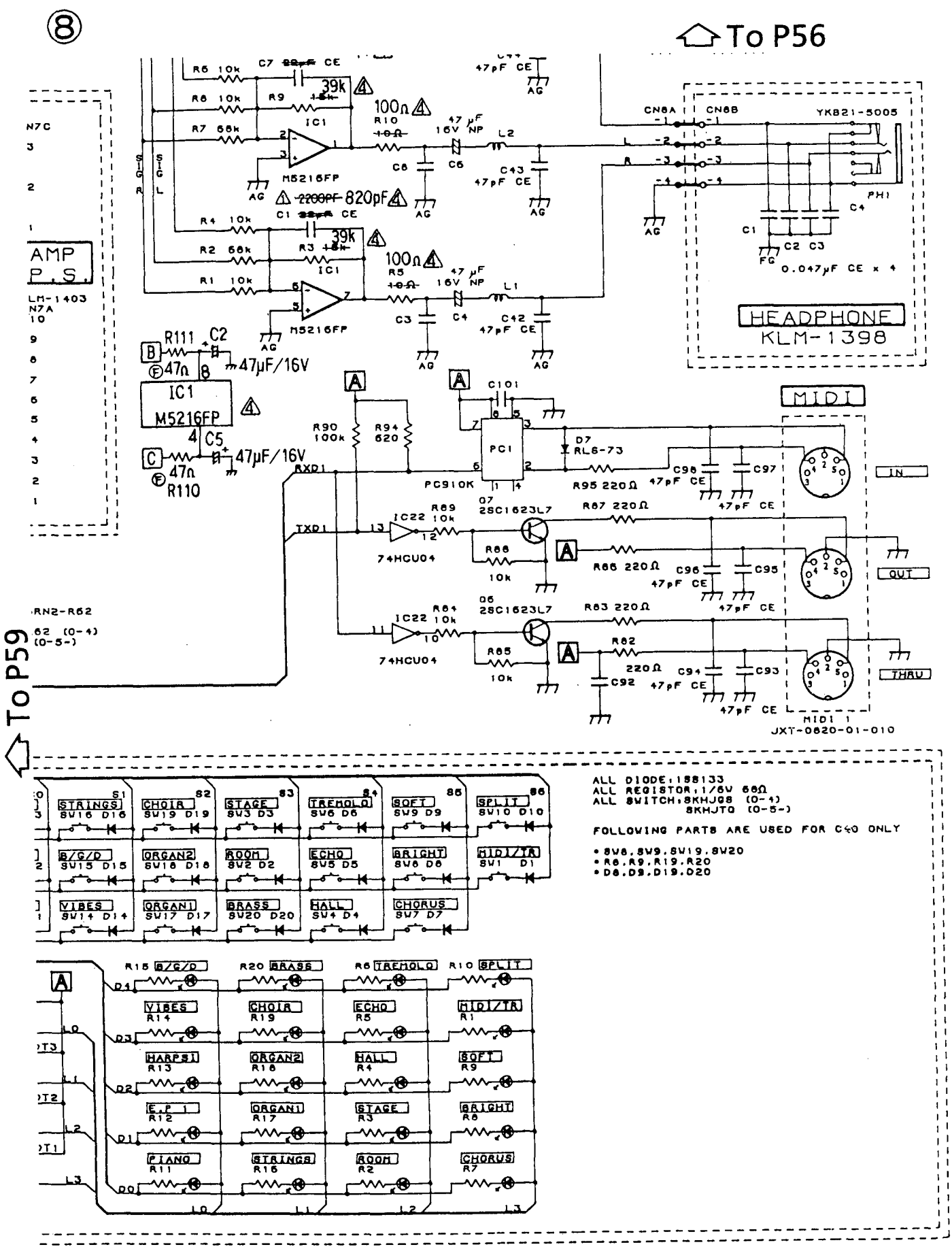

③
IC10 DRAM64Kx4
R67 200k
C.V.
OFFSET
MSB ADJ
100kB VR2 C.V.
100kB VR1
R65 470k
R66 1M
R64 510k
C75
C60 1μF 50V
C59
TP1 D/A OUT
NJM5532M
IC5
R50
R51 2k
1k
C63 1800pF P.P
C64 470pF CE
C65 1800pF P.P
IC6 HD14053BFP
R52 1k
C32 0.012μF
R40 1.6k
R41 1k
R42 1k
C30
C31
C30 – 0.022μF
C40 – 0.033μF
C37 0.012μF
R47 1.6k
R46 1k
R45 1k
C38
C39
S/H L
S/H R
NJM5532M
IC7
R56 2k
R57 1k
C70
C71 470pF CE
C72 1800pF P.P
IC8 HD14053BFP
R59 1k
PCM61P
IC4
C78 15pF CE
X1 C77
24.576MHz AT-49/u
15pF CE
R49 390Ω 1/6W
R48 1k 1/6W
C57
C58
C53 1μF 50V
C56 1μF 50V
C54
C55 1μF 50V
ZD3 RD5.1 LB1
ZD2 RD5.1 LB1
MUTE CV
D2 RLS-73
D1 RLS-73
R11 1M
R13 3.3k
C10 100μF 16V
Q1 2SA812M7
C9 1μF 50V
R12 C-30 100k C-40 36k
To P54
To P56
J1
J2
R54 3.3k
R53 2.4k
C66 10μF 16V
R55 3.3k
R56 2.4k
C67 10μF 16V
R61 3.3k
R60 2.4k
C73 10μF 16V
R62 3.3k
R63 2.4k
C74 10μF 16V
IC6 HD14053BFP
IC8 HD14053BFP
INH GND
R14 100
R16 10k
DT1 FN1A4M
C11 220pF CE
R17 470K
R15 10k
2SK433C
F2
F1
D4 RLS-73
D3 RLS-73
R22 47K
R19 47K
L4
L5
47pF CE
C45
C46
R OUT
L OUT
CN7C
CN7B-13
-12V
+12V
+5V
C47 22μF 16V
C48
C50 22μF 16V
C49
LC1
LC2
LC3
C51 100μF 6.3V
C52
KLM-1403 CN7A
AMP P.S.
KLM-1396
△1396C
MAIN
To P59

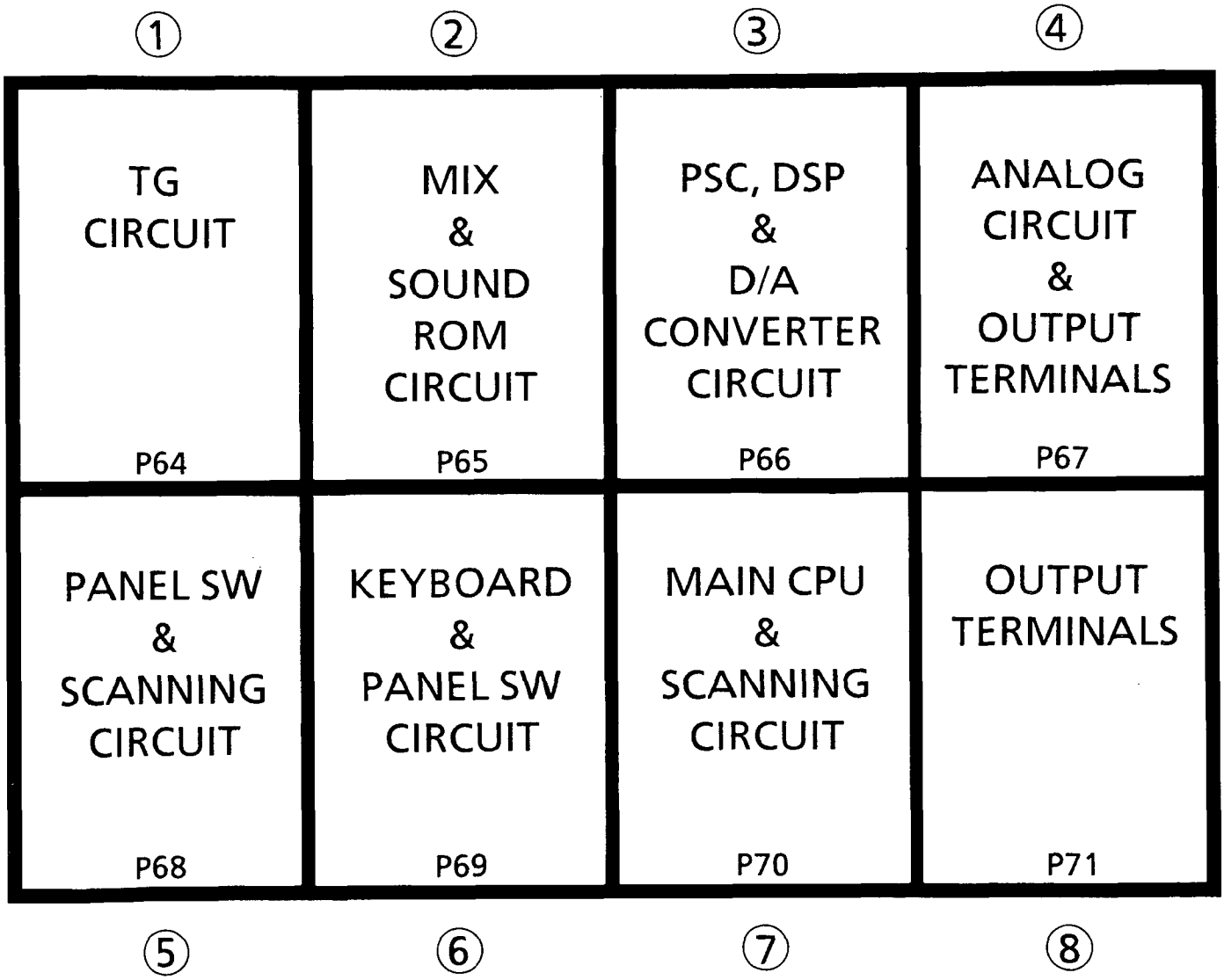

PANEL
KLM-1397
MASTER VOLUME
HEADPHONE
KLM-1398
AMP P.S.
KLM-1403
To P55
To P60
AUX OUT
AUX IN
LEFT
RIGHT
MIDI
IN
IC1 M5216FP
IC2 μPD4570G2
IC3 μPD4574G2
2SC3326A
2SA812M7
RLS-73
2SC1623L7
PC910K
74HCU04
YKB21-5005
RCA1 JPJ-0730-01-500
C30 — 0.022μF
C40 — 0.033μF
820pF
39k
100Ω
47μF/16V
0.047μF CE x 4
47pF CE x 4


⑤
To P53
AE88 Keyboard
IC25 M37450M4-233FP
IC26 M51951BML
74HCU04
To P58
57

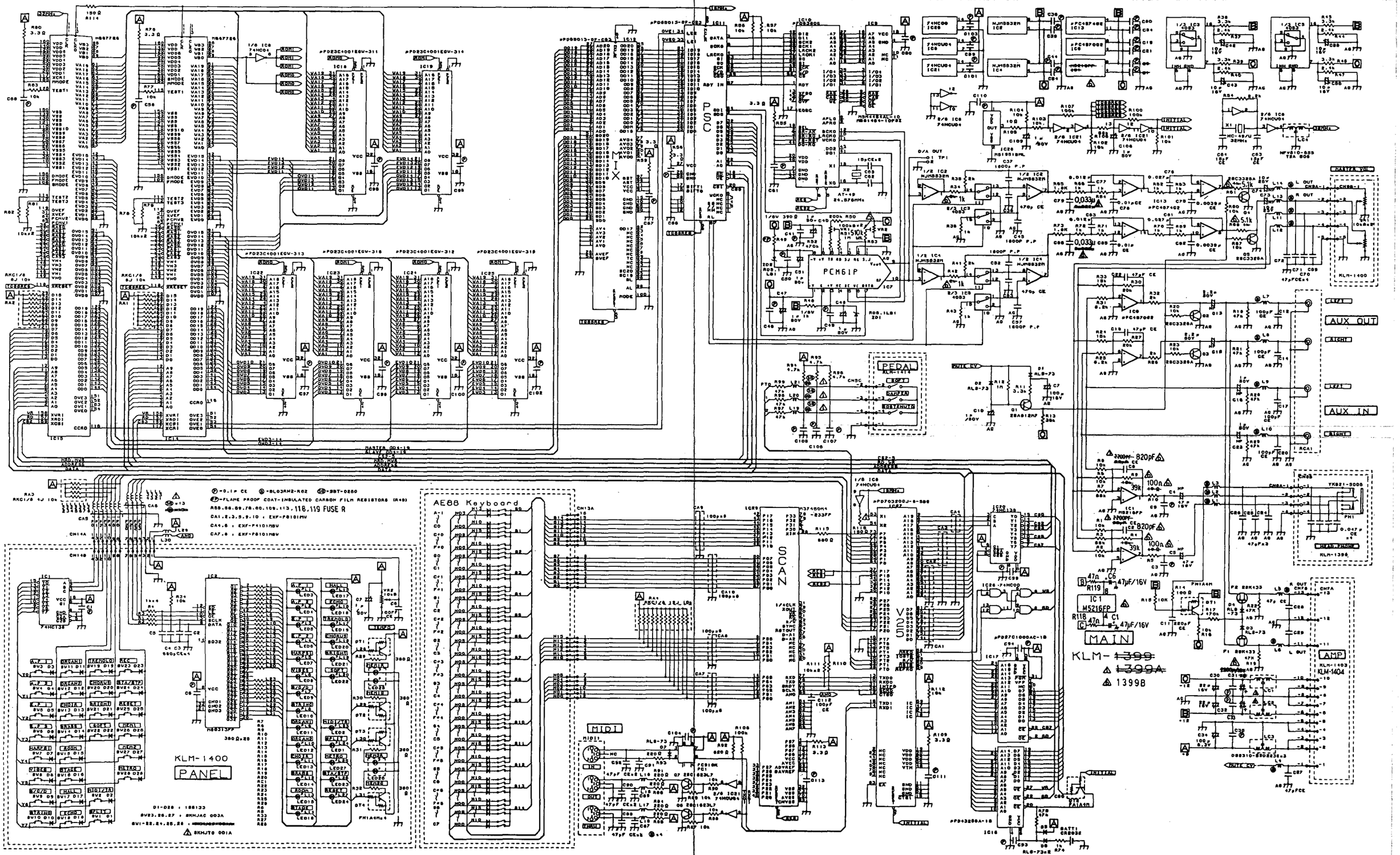

⑥
To P54
To P57
To P59
IC9 74HCU04
IC22 74HCU04
IC5 NJM5532M
IC7 NJM5532M
C99
C21
C61
C62
C66
C69
R72 2.2k
X2 32MHz HC-49/u
C79 15pF CE
C80 15pF CE
LC4 NFV610-655 T2A 506
32MHz
CS1,2 RD,WR ADDRESS DATA
CS0,3 RD,WR
IC23 μPD70320GJ-8-5BG
16MHz
R100 680Ω
RES
RES2
IC21 27C1000
IC20 LH5164LN-10 64K SRAM
IC24 74HC139
R101 3.3Ω
R107 3.3Ω
R108 10k
R109 10k
R91 10k
C104
C105
C106
C90
C91
R60 47k
D6 RL8-73
D5 RL8-73
R79 1k
BATT1 CR2032
PEDAL
KLM-1414
DAMPER
SOFT / SOSTENUTO
CN6B
CN6C
R99 4.7k
R96 4.7k
R98 47k
R97 47k
C102
C103
L15
L14
PT0
PT1
INITIAL
DT2 FA1A4M


⑦
To P55
To P58
To P60
KLM-1396
1396C
MAIN
PANEL
KLM-1397
AMP P.S.
KLM-1403
IC1
M5216
4
IC6
HD14053BFP
IC1
74HC138
2SK433C
RLS-73
NO VALUE C IS 0.1μF 25V
FUSE RESISTOR
FLAMEPROOF COAT-INSULATED CARBON FILM RESISTOR
L1-13,27-33 BL03RN2-R62
L14-26 BL03RN2-R62 (0-4)
SBT0260 (0-5-)
MUTE CV
HARPSI
STRINGS
CHOIR
E.P
B/G/D
ORGAN2
PIANO
VIBES
ORGAN1

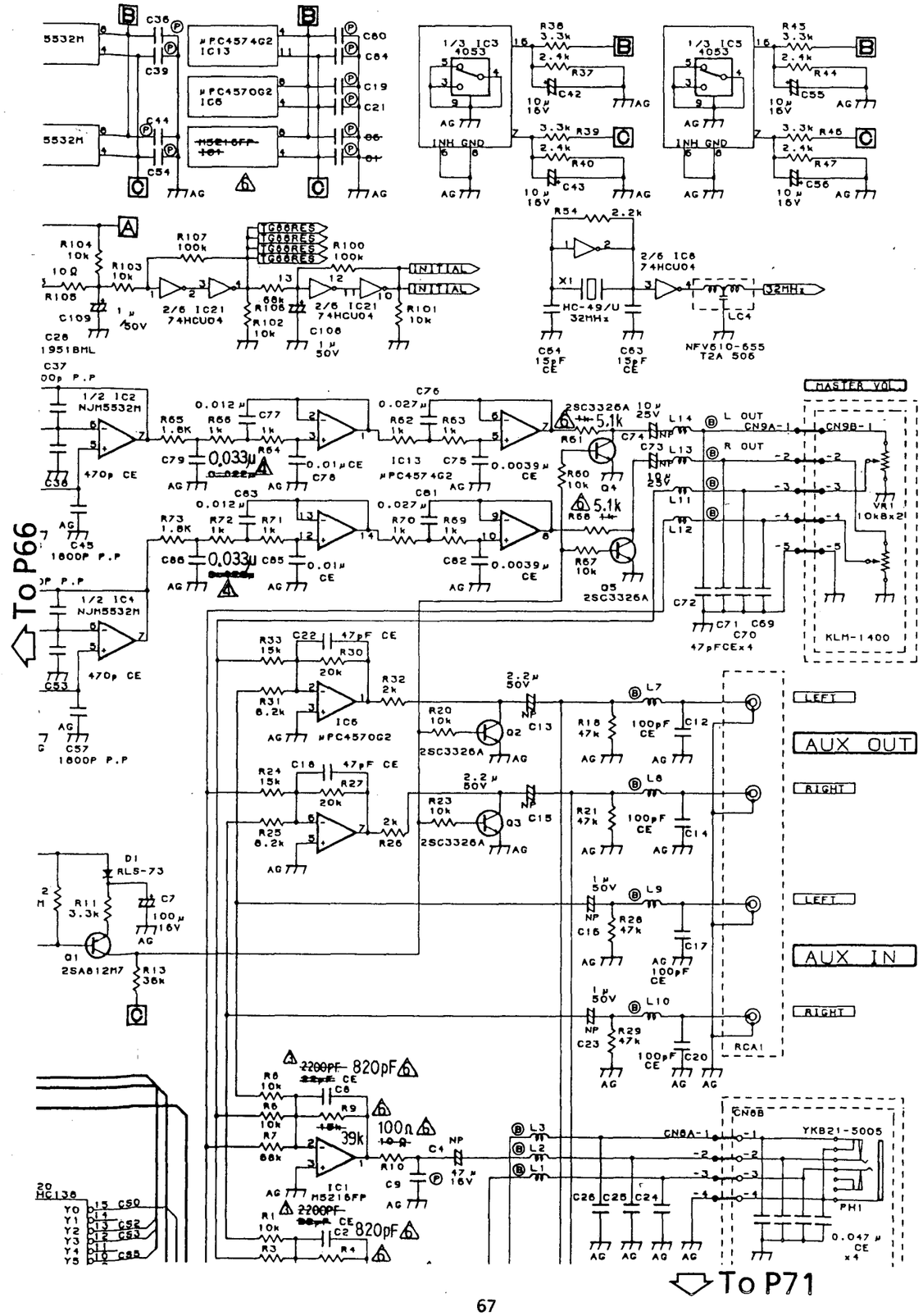

⑧
To P56
To P59
AMP P.S.
HEADPHONE KLM-1398
M5216FP
IC1
MIDI
IN
OUT
THRU
74HCU04
PC910K
2SC1623L7
JXT-0620-01-010
ALL DIODE:1SS133
ALL REGISTOR:1/6W 66Ω
ALL SWITCH:SKHJG8 (0-4)
SKHJTQ (0-5-)
FOLLOWING PARTS ARE USED FOR C40 ONLY
• SW8,SW9,SW19,SW20
• R8,R9,R19,R20
• D8,D9,D19,D20
STRINGS
CHOIR
STAGE
TREMOLO
SOFT
SPLIT
B/G/D
ORGAN2
ROOM
ECHO
BRIGHT
MIDI/TR
VIBES
ORGAN1
BRASS
HALL
CHORUS
PIANO
HARPSI
E.P 1

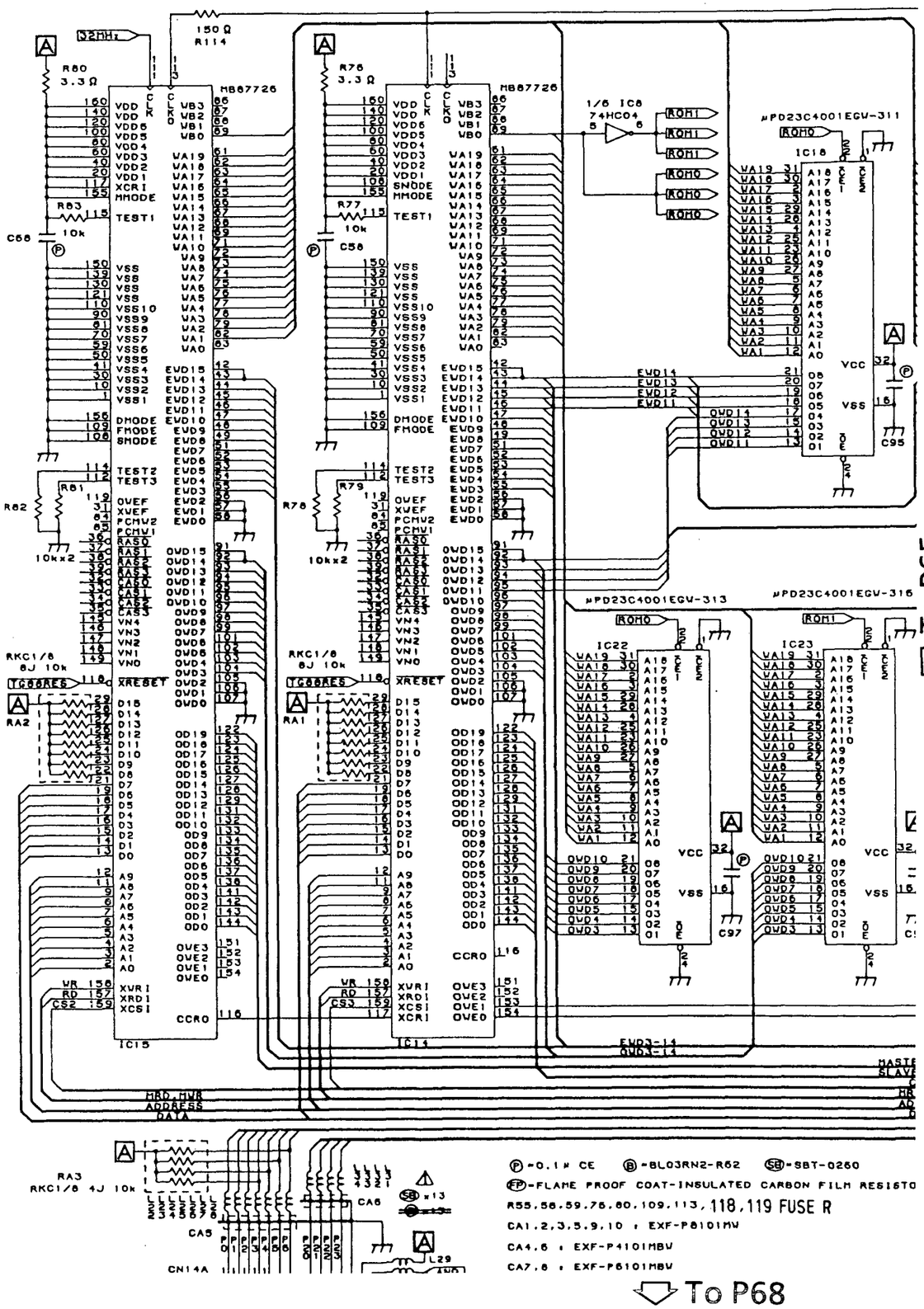

①
②
③
④
TG CIRCUIT
P64
MIX & SOUND ROM CIRCUIT
P65
PSC, DSP & D/A CONVERTER CIRCUIT
P66
ANALOG CIRCUIT & OUTPUT TERMINALS
P67
PANEL SW & SCANNING CIRCUIT
P68
KEYBOARD & PANEL SW CIRCUIT
P69
MAIN CPU & SCANNING CIRCUIT
P70
OUTPUT TERMINALS
P71
⑤
⑥
⑦
⑧

❶ ❷ ❸ ❹


PCM61P
SCAN
PEDAL
KLM-1414
MIDI
AE88 Keyboard
KLM-1400
PANEL
AUX OUT
AUX IN
MAIN
KLM- 1399
1399A
1399B
AMP
KLM-1404
KLM-1403
KLM-1396
KLM-1400

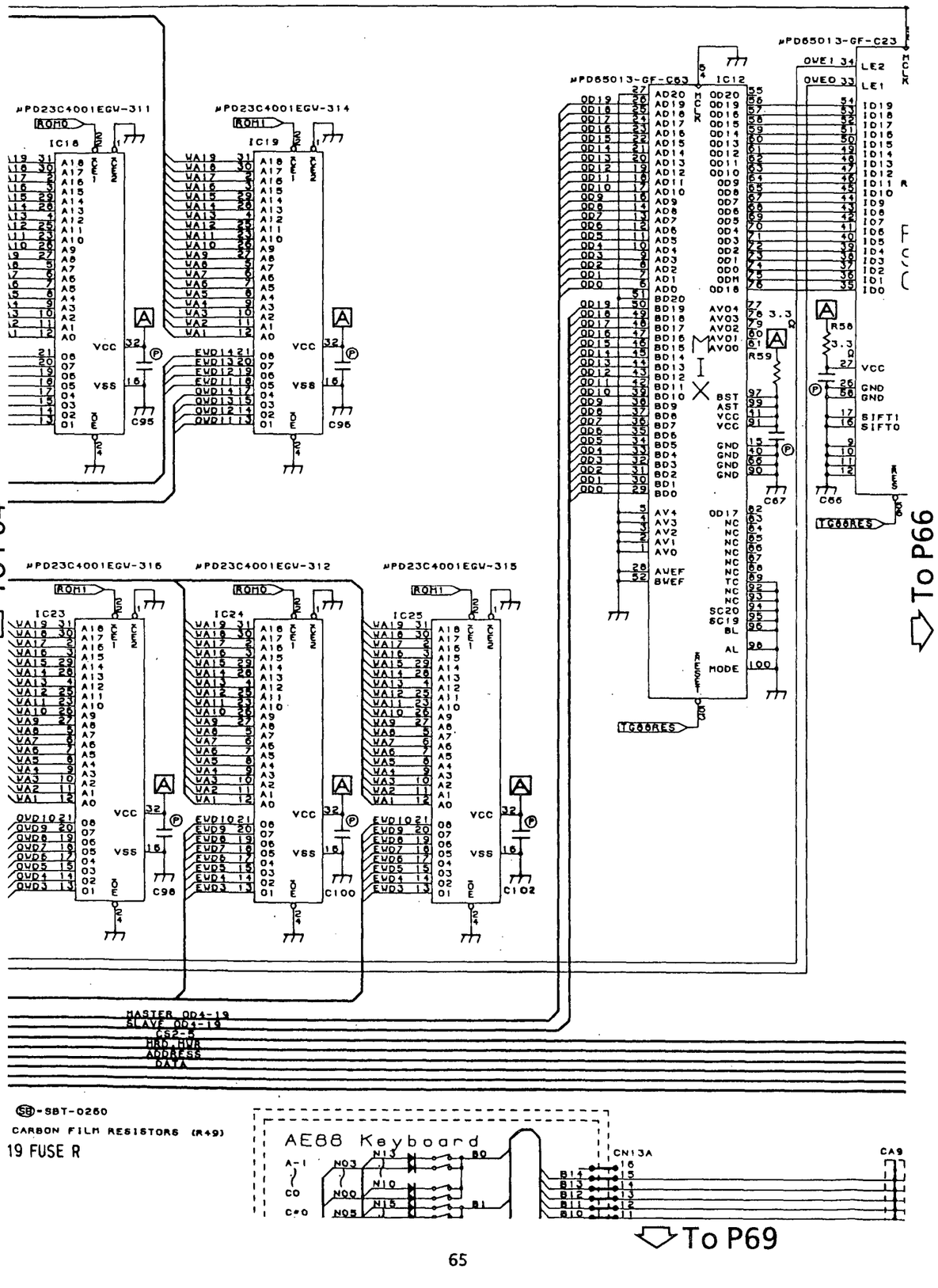
❺ ❻ ❼ ❽



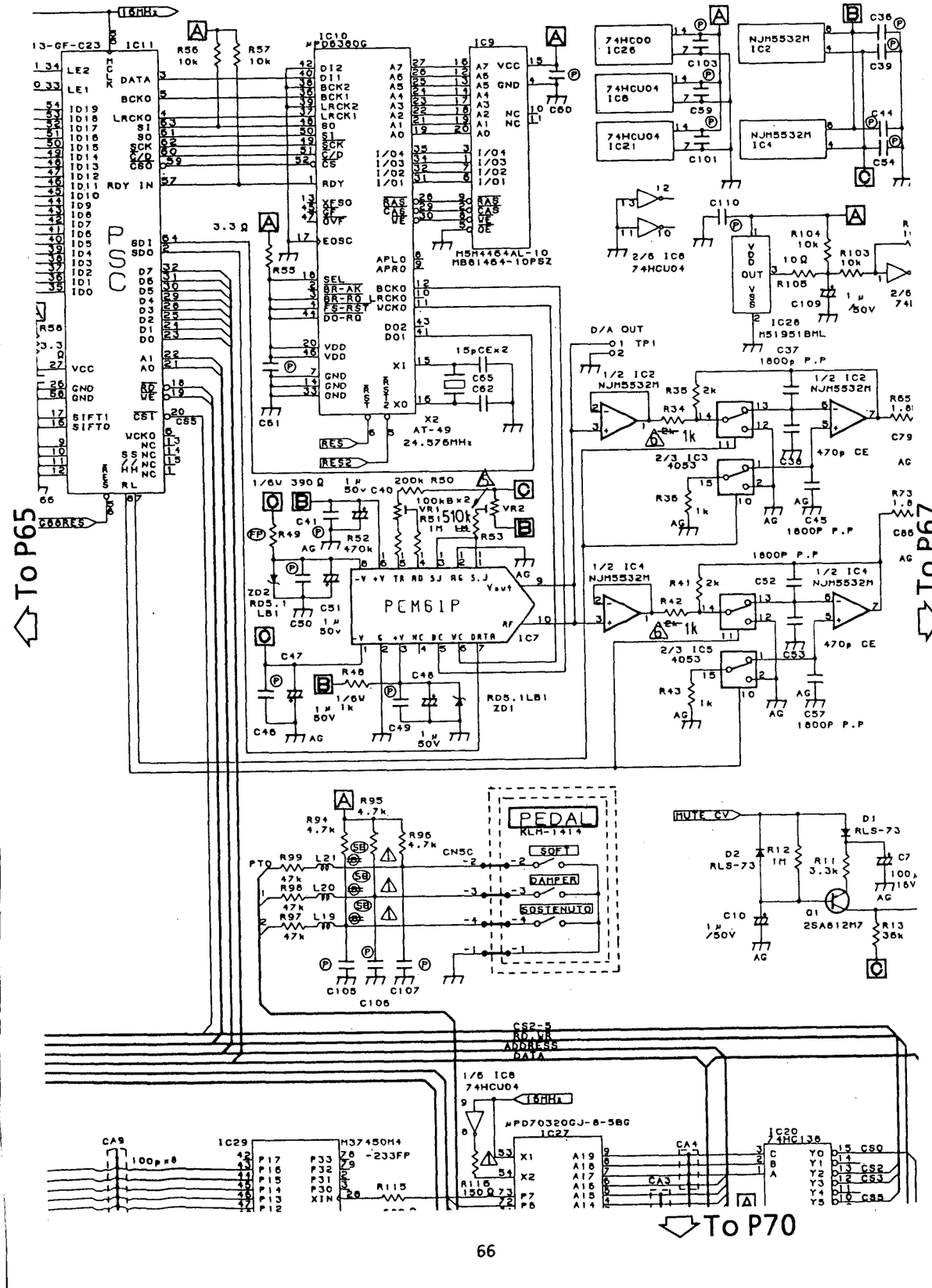


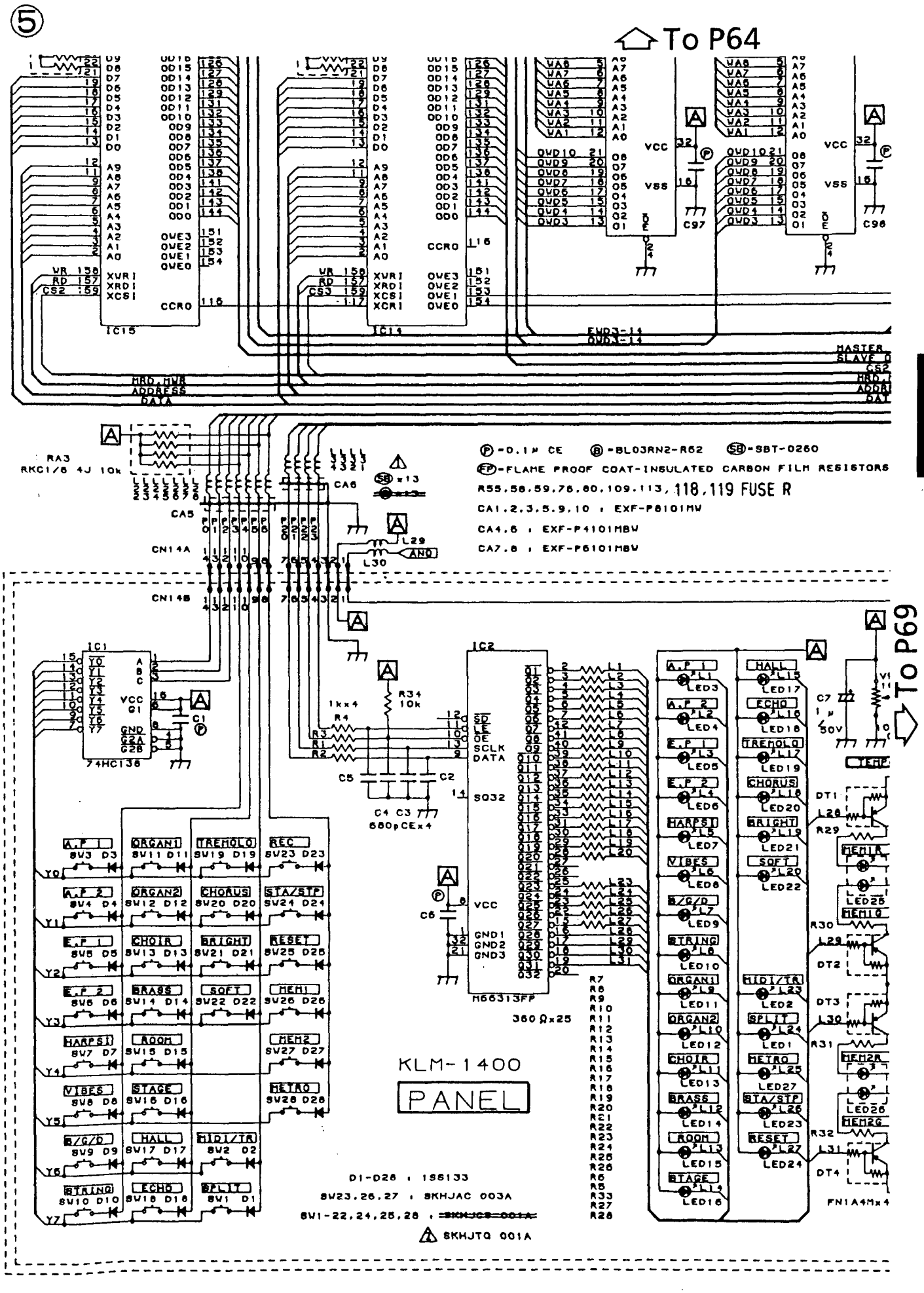
P=0.1μ CE (B)=BL03RN2-R62 (SB)=SBT-0260
(FP)=FLAME PROOF COAT-INSULATED CARBON FILM RESISTO
R55,56,59,76,80,109,113,118,119 FUSE R
CA1,2,3,5,9,10 : EXF-P8101MW
CA4,6 : EXF-P4101MBV
CA7,8 : EXF-P6101MBV

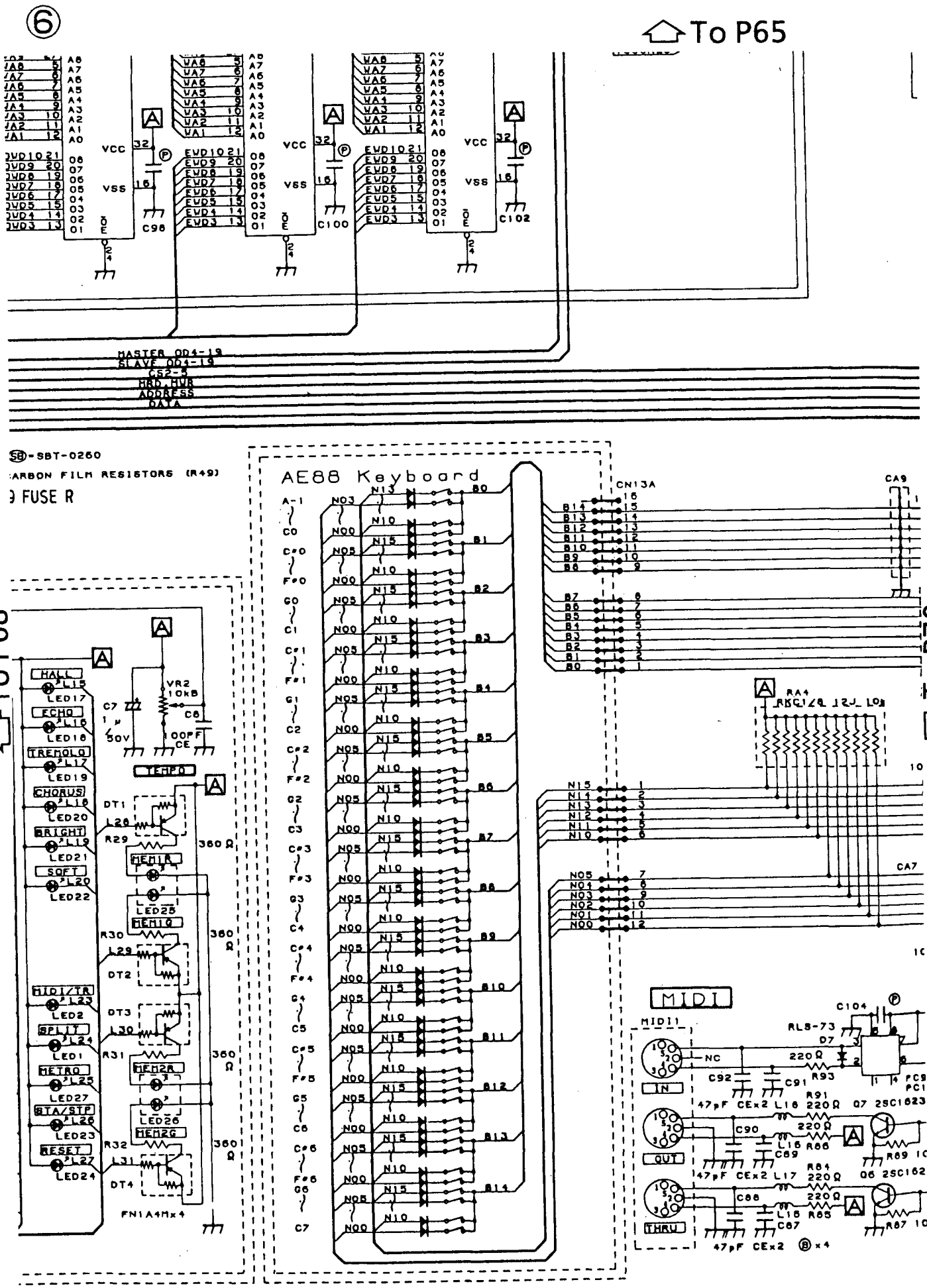
②

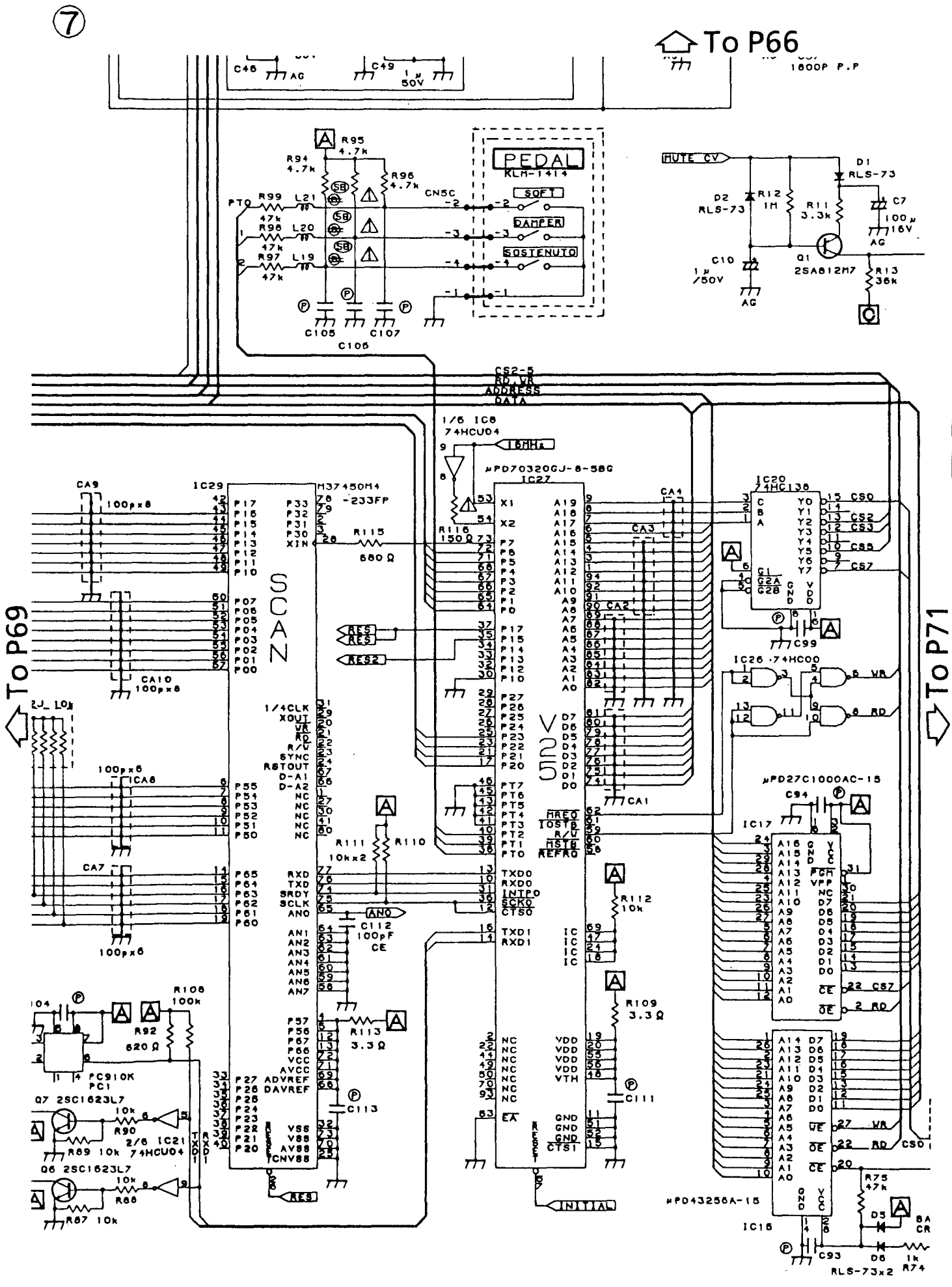

To P64
μPD23C4001EGV-311
μPD23C4001EGV-314
μPD23C4001EGV-316
μPD23C4001EGV-312
μPD23C4001EGV-315
μPD65013-GF-C63
μPD65013-GF-C23
IC18
IC19
IC23
IC24
IC25
IC12
ROM0
ROM1
VCC
VSS
MASTER OD4-19
SLAVE OD4-19
CS2-5
HRD,HWR
ADDRESS
DATA
SB-SBT-0260
CARBON FILM RESISTORS (R49)
19 FUSE R
AE88 Keyboard
CN13A
CA9
To P69
To P66

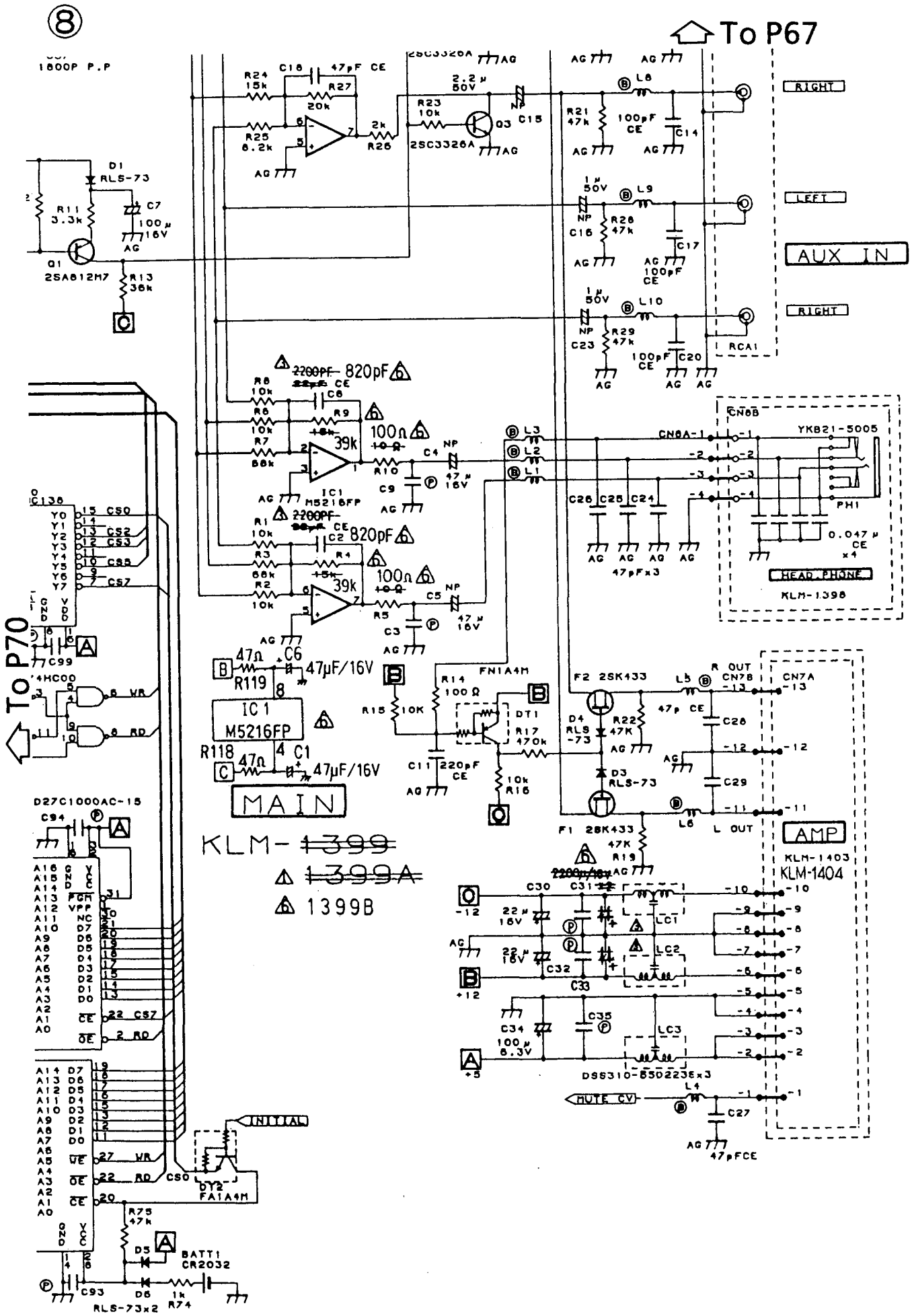
③

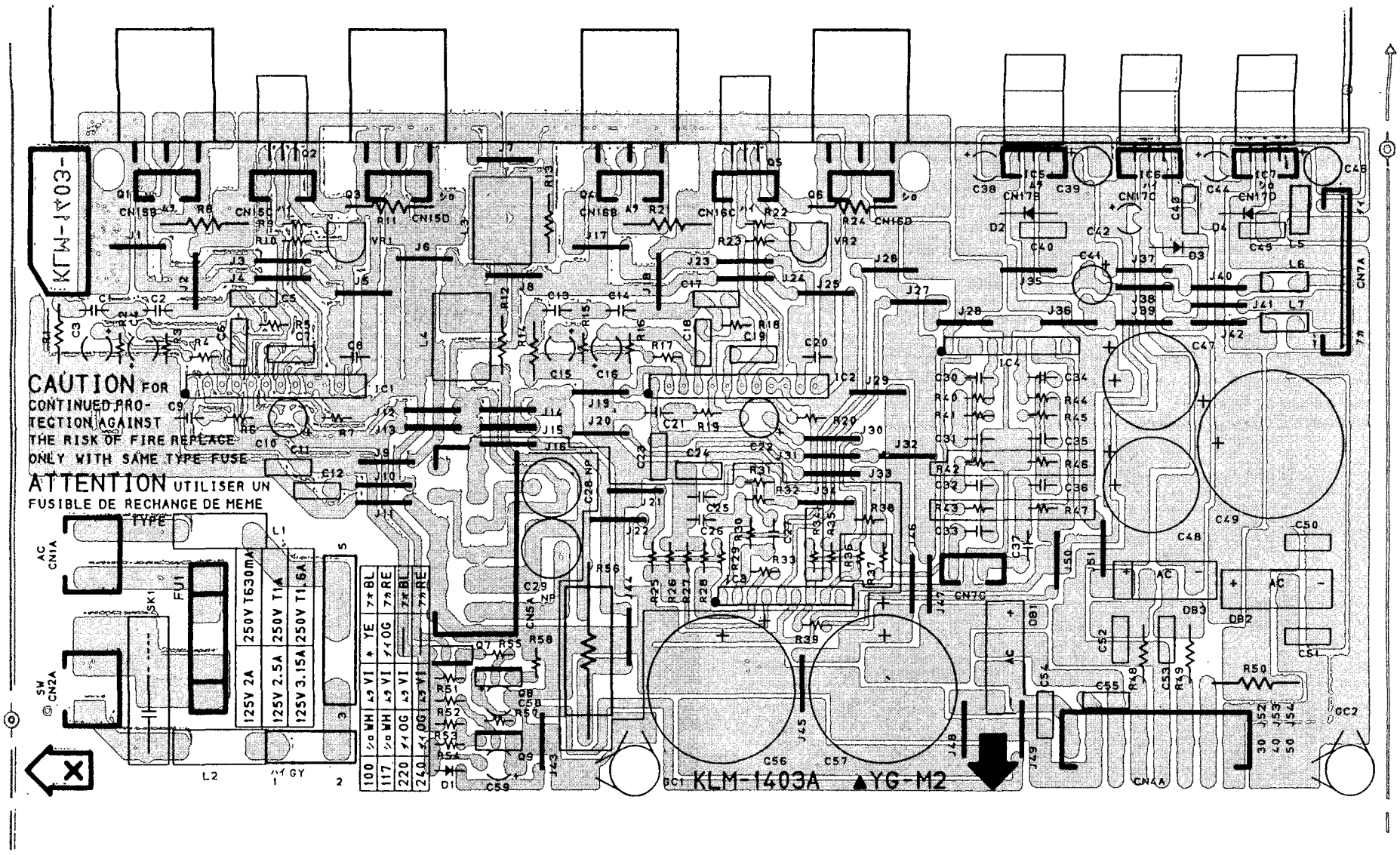

To P65
To P67
16MHz
μPD63000
IC10
IC11
IC9
M5M4464AL-10
MB81464-10PSZ
X2
AT-49
24.576MHz
PCM61P
IC7
RD5.1LB1
ZD1
74HC00
IC26
74HCU04
IC6
74HCU04
IC21
NJM5532M
IC2
NJM5532M
IC4
M51951BML
IC28
2/6 IC6
74HCU04
1/2 IC2
NJM5532M
1/2 IC4
NJM5532M
2/3 IC3
4053
2/3 IC5
4053
D/A OUT
PEDAL
KLH-1414
SOFT
DAMPER
SOSTENUTO
MUTE CV
1/6 IC6
74HCU04
μPD70320GJ-8-5BG
IC27
IC29
M37450M4
-233FP
IC20
74HC138
CS2-5
RD,WR
ADDRESS
DATA
To P70


⑤
To P64
To P69
IC15
IC14
IC1
74HC138
IC2
M66313FP
KLM-1400
PANEL
RA3
RKC1/8 4J 10k
CA5
CA6
CN14A
CN14B
R34
10k
1k×4
R4
C1
C2
C3
C4
C5
C6
C7
C97
C96
L29
L30
ANO
SCLK
DATA
SO32
SD
LE
OE
VCC
GND1
GND2
GND3
360Ω×25
MASTER
SLAVE
HRD, HWR
ADDRESS
DATA
CS2
FWD3-14
QVD3-14
P=0.1μ CE
SB=SBT-0260
FP=FLAME PROOF COAT-INSULATED CARBON FILM RESISTORS
R55,58,59,76,80,109,113, 118, 119 FUSE R
CA1,2,3,5,9,10 : EXF-P8101MW
CA4,6 : EXF-P4101MBW
CA7,8 : EXF-P8101MBW
D1-D28 : 1S6133
SW23,26,27 : SKHJAC 003A
SW1-22,24,25,28 : SKHJCS 001A
SKHJTQ 001A
A.P 1
A.P 2
E.P 1
E.P 2
HARPSI
VIBES
G/G/D
STRING
ORGAN1
ORGAN2
CHOIR
BRASS
ROOM
STAGE
HALL
ECHO
TREMOLO
CHORUS
BRIGHT
SOFT
REC
STA/STP
RESET
MEM1
MEM2
METRO
MIDI/TR
SPLIT
TEMP
DT1
DT2
DT3
DT4
MEM1A
MEM1G
MEM2A
MEM2G
FN1A4Mx4

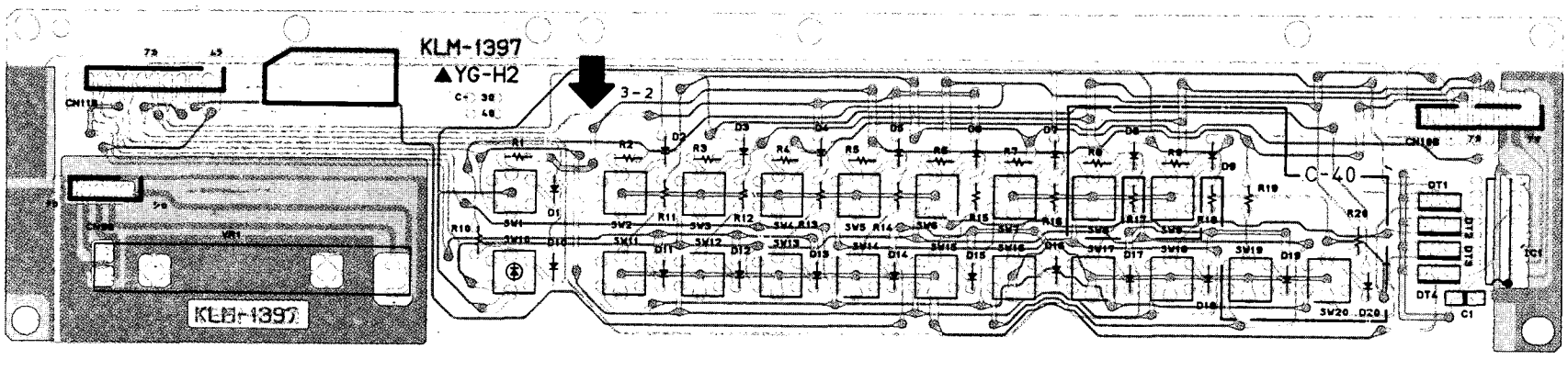

⑥
To P65
C96
C100
C102
MASTER OD4-19
SLAVE OD4-19
CS2-5
R&D.RWR
ADDRESS
DATA
SB-SBT-0260
CARBON FILM RESISTORS (R49)
FUSE R
AE88 Keyboard
CN13A
CA9
CA7
RA4
To P68
To P70
HALL
ECHO
TREMOLO
CHORUS
BRIGHT
SOFT
MIDI/TR
SPLIT
METRO
STA/STP
RESET
VR2
10kB
C7
1 μ
50V
C8
100PF
CE
TEMPO
DT1
DT2
DT3
DT4
R29
R30
R31
R32
360 Ω
MEM1A
MEM1B
MEM2A
MEM2B
LED25
LED26
FN1A4Mx4
MIDI
MIDI1
IN
OUT
THRU
NC
C92
C91
R93
220Ω
RL8-73
D7
C104
C90
C89
C88
C87
R91
R84
47pF CEx2
L16 R86
L17 R85
2SC1623
2SC162
R87 10
R89 1C
47pF CEx2 ⑧x4


⑦
To P66
To P69
To P71
PEDAL
KLH-1414
SOFT
DAMPER
SOSTENUTO
CN5C
MUTE CV
SCAN
M37450M4
μPD70320GJ-8-58G
μPD27C1000AC-15
μPD43256A-15
74HC138
74HC00
74HCU04
V25
INITIAL
CS2-5
RD,WR
ADDRESS
DATA

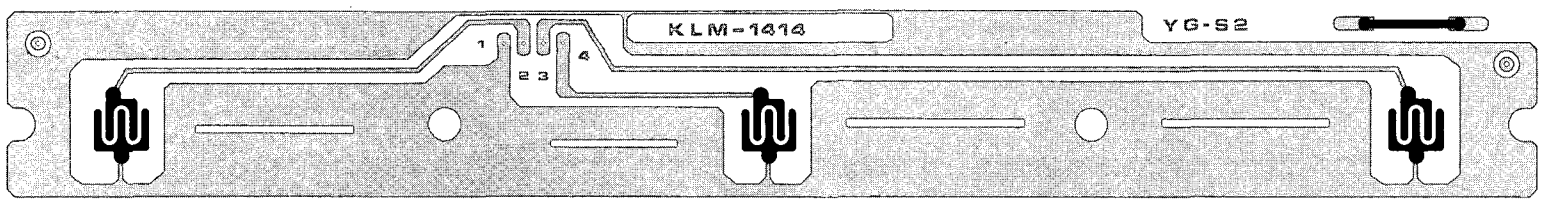

8
To P67
To P70
RIGHT
LEFT
AUX IN
RIGHT
RCA1
MAIN
KLM-1399
1399A
1399B
AMP
KLM-1403
KLM-1404
HEAD PHONE
KLM-1398
YKB21-5005
CN8B
CN8A
CN7B
CN7A
R OUT
L OUT
IC1
M5216FP
IC 1
M5216FP
D27C1000AC-15
4HC00
FN1A4M
2SA812M7
2SC3326A
RLS-73
BATT1
CR2032
INITIAL
MUTE CV
DS8310-85D2236x3
RLS-73x2
47pFx3
47pFCE
1800P P.P


KLM-1403A ▲YG-M2
CAUTION FOR CONTINUED PRO- TECTION AGAINST THE RISK OF FIRE REPLACE ONLY WITH SAME TYPE FUSE
ATTENTION UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE
125V T630MA
125V 2A
125V T1A
125V 2.5A
125V T1.6A
125V 3.15A

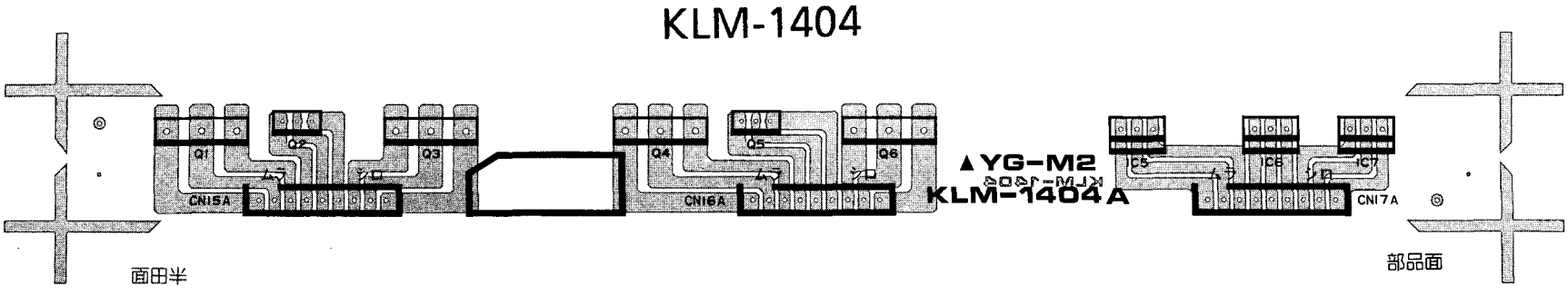
KLM-1397



KLM-1414

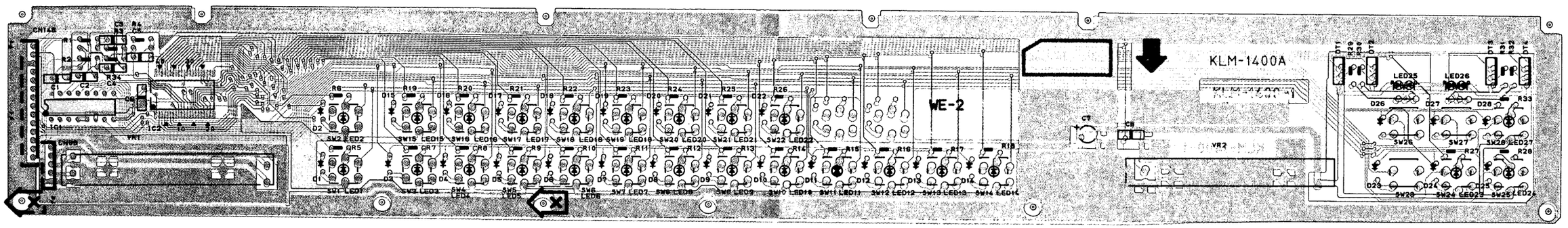


KLM-1404

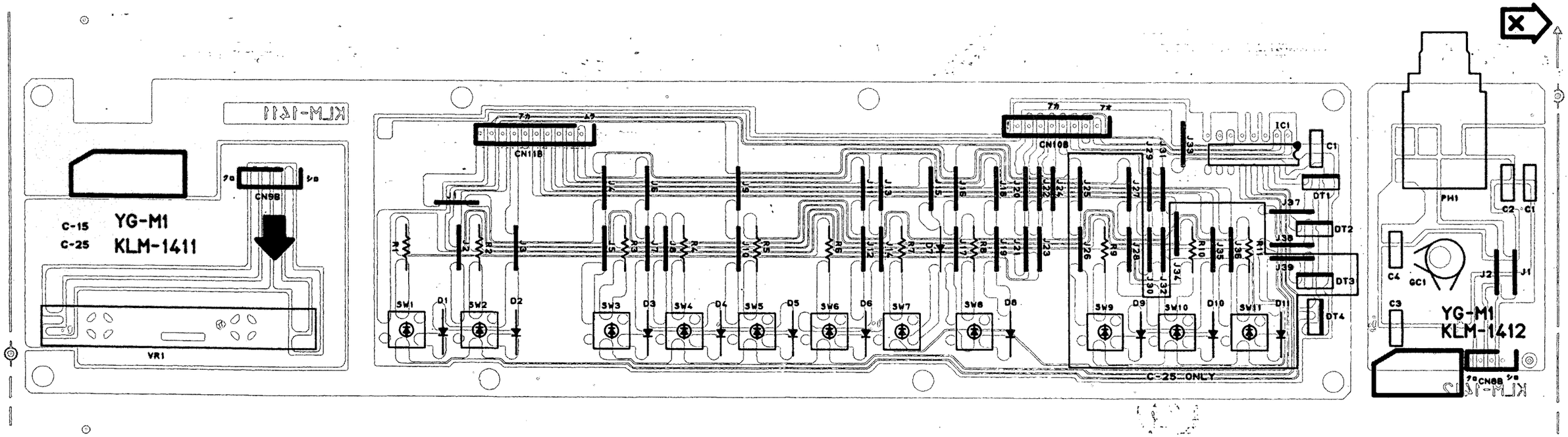


5. PC BOARD

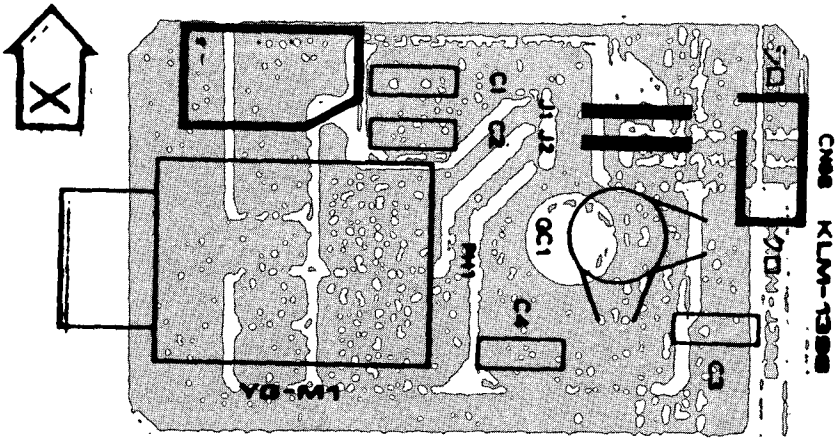
KLM-1400



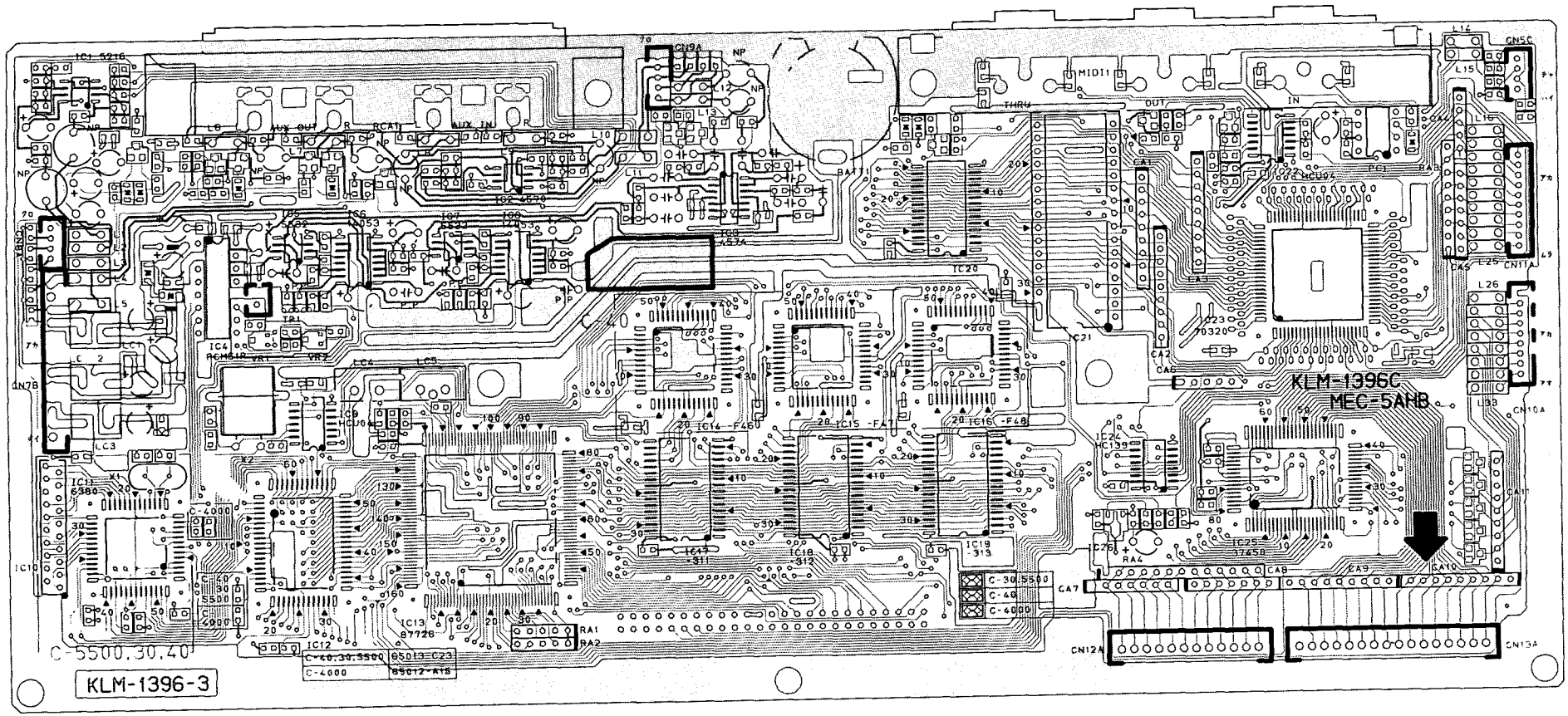
KLM-1411/1412



KLM-1398

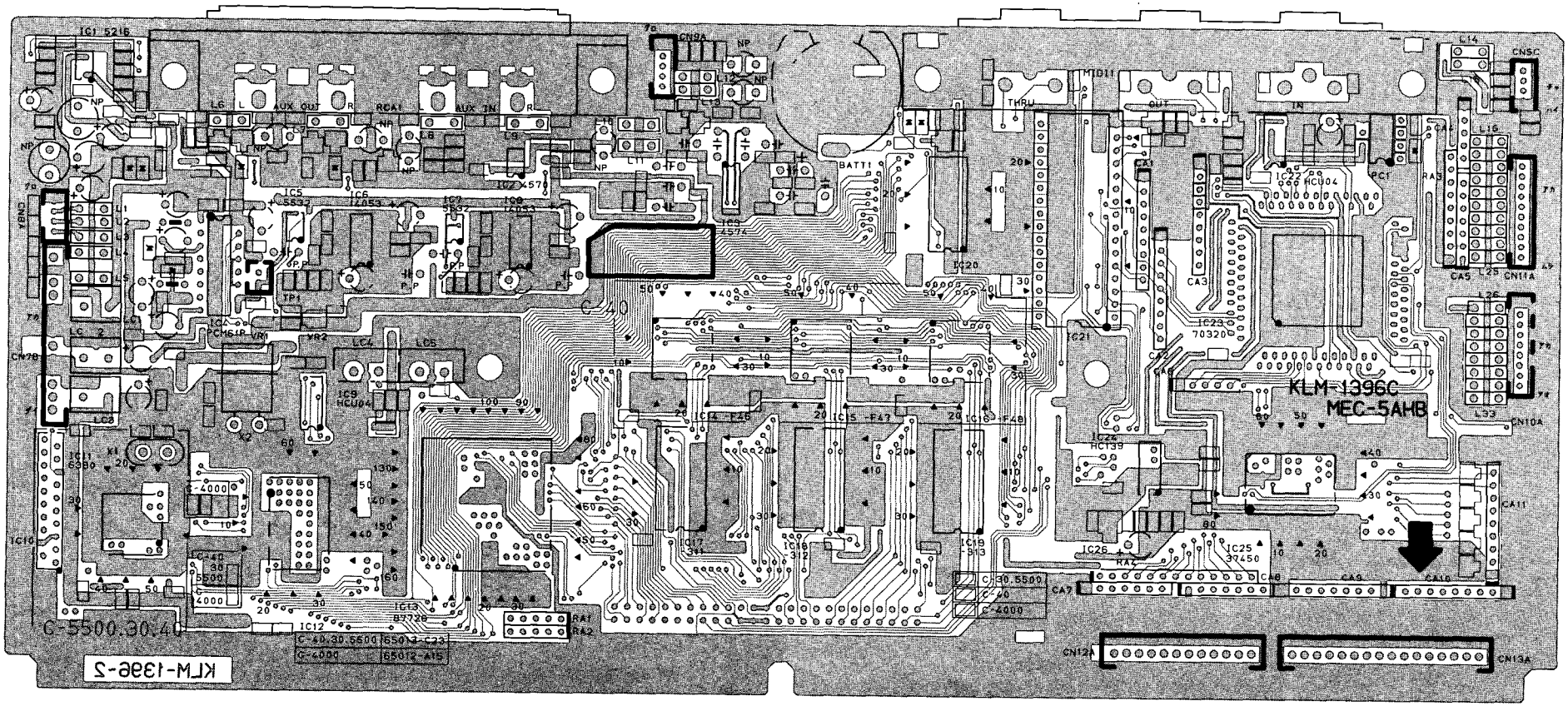

X
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15
C16
C17
C18
C19
C20
C21
C22
C23
C24
C25
C26
C27
C28
C29
C30
C31
C32
C33
C34
C35
C36
C37
C38
C39
C40

KLM-1396

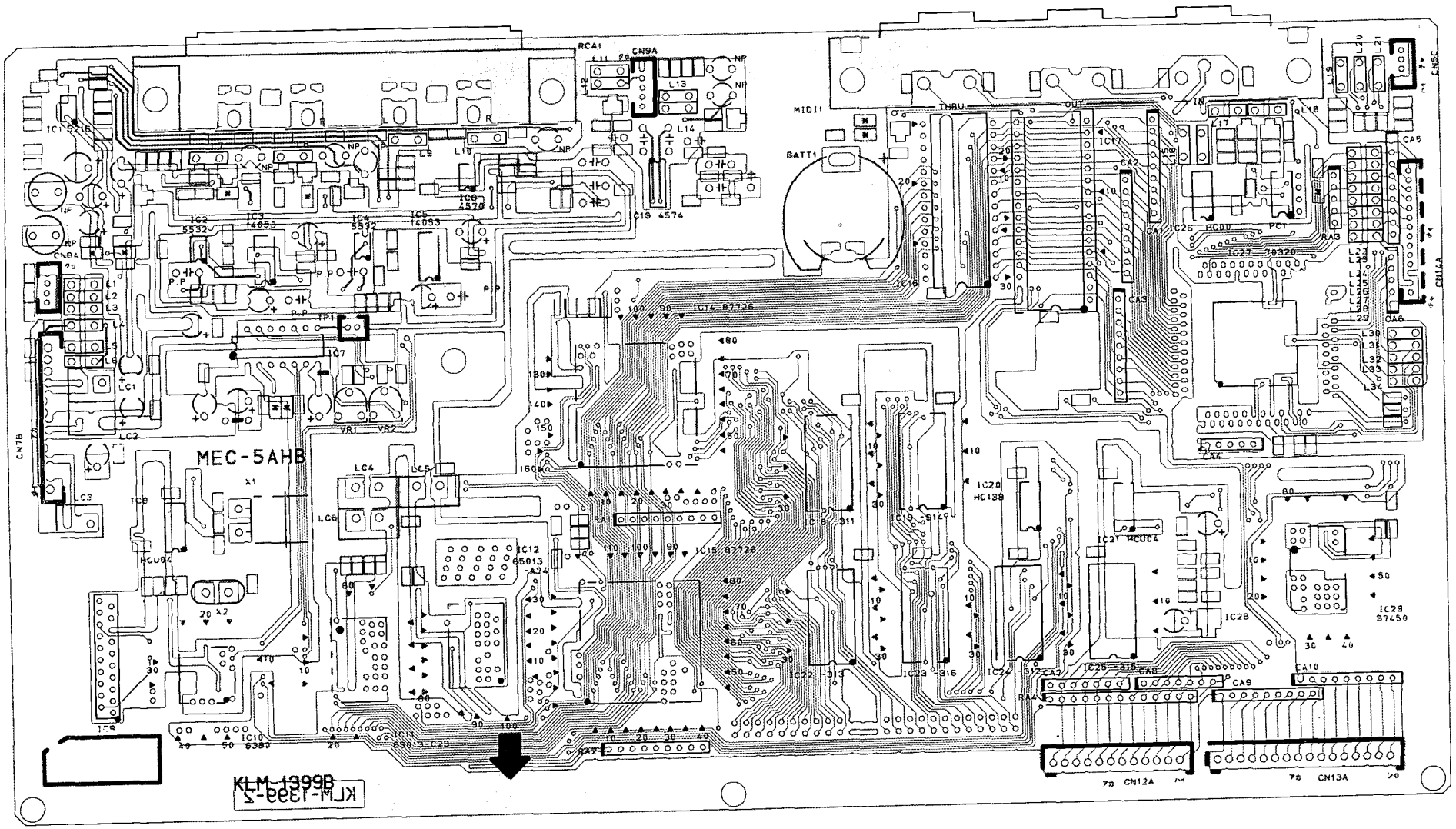


MOUNT PARTS SIDE

KLM-1396

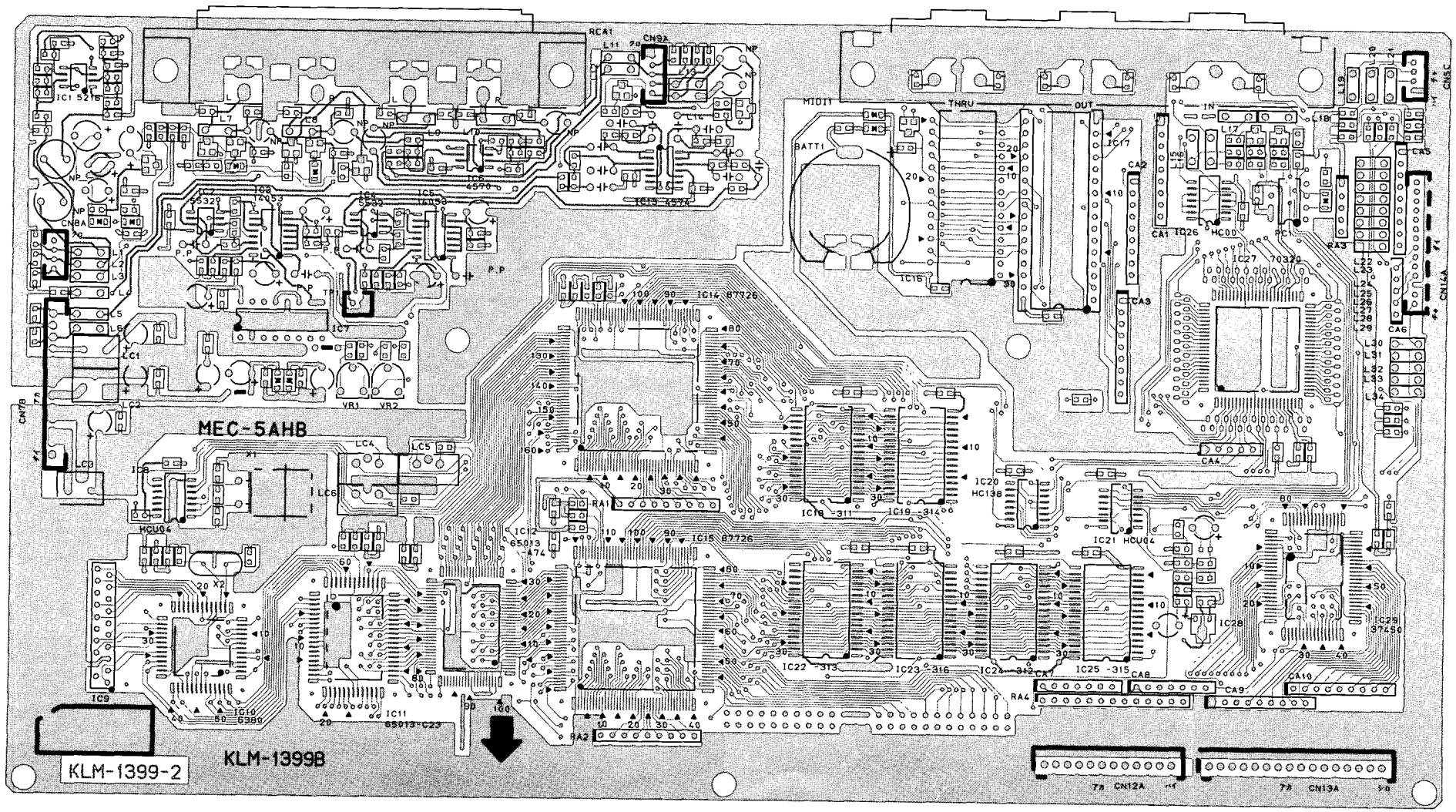


NO MOUNT PARTS SIDE



MOUNT PARTS SIDE

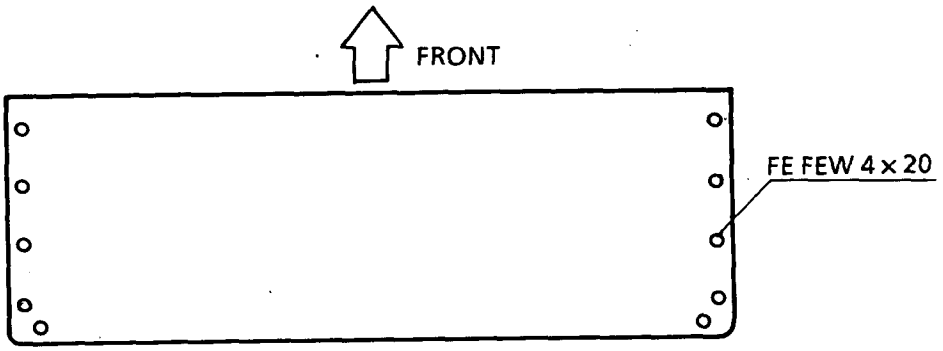
KLM-1399



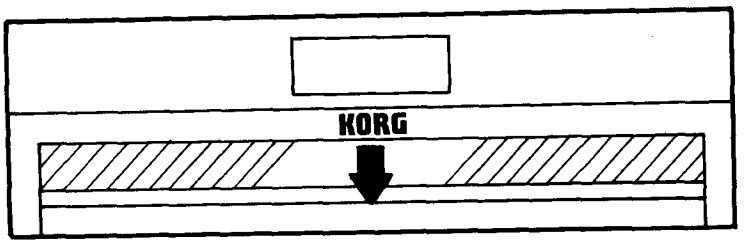
NO MOUNT PARTS SIDE

[redacted]

6. HOW TO OPEN THE FRONT PANEL OF C-30/40/50

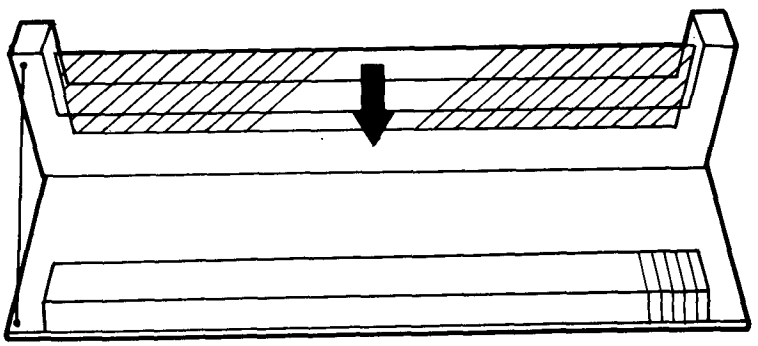


1. Remove the total 10 pieces of screws (FE FEW 4 x 20) at the both sides of bottom plate.



2. Pull out the acryl key cover.

※ When you open the front panel without pulling out the key cover, you may break it by hitting to the heatsink.
C-30 doesn't have the acryl key cover.



3. Open the front panel with keeping the key cover.

4. Push down the key cover slowly and carefully where it is not hit by the heatsink.

5. Fix the bottom plate and the side chassis with a strong lead wire. When you reassemble it, proceed the reverse work from 5 to 1.

7. MAIN ICS

MAIN CPU	:	UPD70320GJ-8-5BG (V25)
SUB CPU	:	M37450M4-233FP (KSP)
TG88	:	MB87726
MIX	:	UPD65013-GF-C63
PSC89	:	UPD65013-GF-A81
PSC90	:	UPD65012-GF-A15 (C-4000 ONLY)
DSP	:	UPD6380G
DAC	:	PCM61P
※WAVE ROM	:	UPD23C4001EGW-311～316 UPD23C2000GCF46-3B6 ～F48-3B6

※The following is the list of WAVE ROMs which are used on each product.

Product Name	WAVE ROM
C-4000 C-5500 C-30	UPD23C4001EGW-311～313 (4M x 3)
C-40	UPD23C4001EGW-311～313 (4M x 3) UPD23C2000GF46-3B6～F48-3B6 (2M x 3)
C-50	UPD23C4001EGW-311～316 (4M x 6)

TG88***TG88(MB87726) is TONE GENERATOR IC which is developed for the sound source of the electronic intruments.
The waveform data use the other WAVE MEMORY ICs (PCM sound source).
Also, the number of 1 voice on C-series so you will be able to play up to 16 simultaneous notes.

MIX89***MIX89(UPD65012-GF-A74) mixes the output data from 2 pieces of TG88 and sends the mixed data out.
This is used only for C-50 to play up to 32 simultaneous notes.

PSC89***PSC89(UPD65013-GF-A81) works as the interface that converts the waveform data, which comes from TG88 or MIX89, from PARALLEL to SERIAL, sends the data to DSP(UPD6380G) and sends the serial output data of DSP to DAC(PCM61P).
Also, PSC89 works as the interface between DSP and CPU(V25).
※ PSC90(UPD65012-GF-A15) is used on C-4000 only.
However as C-4000 has no DSP, PSC90 doesn't work as the interface between DSP and CPU(V25).

DSP*****DSP(UPD6380G) is DIGITAL SIGNAL PROCESSOR and this is used as the IC for DIGITAL EFFECT which using the external RAM(256K) on C-series.

KSP*****KSP(M37450M4-233FP) scans the data from the keyboard and transmits the data to the main CPU with using the TXD terminal. Also, it controls the panel LED. (except C-50)

8. CHECK AND ADJUSTMENT

FOR C－4000／5500

How to start the SELF-TEST

Connect MIDI IN to OUT with a MIDI cable. The SELF-TEST is started by turning the power on while pressing MIDI/TRANSPOSE and SPLIT. After that, LEDs go on and off in the following order

C-4000 : MIDI/TRANSPOSE, SPLIT, PIANO, E.PIANO, HARPSI, VIBES, ORGAN, STRINGS.

C-5500 : MIDI/TRANSPOSE, SPLIT, PIANO, E.PIANO, HARPSI, VIBES, ORGAN, STRINGS, ROOM, STAGE, HALL.

SWs to operate the SELF-TEST

MIDI/TRANSPOSE : This is used to escape from the SELF-TEST.
STRINGS : The test goes back to the former test by pressing this switch.
PIANO : The test proceeds to the next test by pressing this switch. (But these switches don't work at PANEL SW TEST.)

0. SELF－TEST

The following are automatically checked inside when the SELF-TEST is started.

1. MAIN RAM WR/RD are checked.
When the error happens, PIANO LED goes on and off.

■ : ON ▣ : ON & OFF □ : OFF

In this case, check the circuits connected with CPU and RAM(43256A-15).

2. The data of Sound ROM is checked.
When the data of Sound ROM is different, LED on fig.1 and LED of MIDI/TRANSPOSE go on and off and the test stops.
In this case, check the IC whose LED goes on and off.

	IC19	IC17
LED NAME	PIANO	HARPSI

Only ODD data is checked on IC17.
Nothing is checked on IC18 here.

e. g.) When the data of IC19 is different, LEDs of MIDI/TRANSPOSE and PIANO go on and off.

3. The information of IC (M37450M4) of SCAN and V25 (CPU) is checked.
When the error happens, E. PIANO LED goes on and off.

4. The information of MIDI IN/OUT is checked.
When the error happens, HARPSI LED goes on and off.

1. PANEL SW TEST

When the short-circuit happens, the LED of the switch lights and the test stops.

When no short-circuit happens, MIDI/TRANSPOSE LED lights.
Then, press MIDI/TRANSPOSE SW.

When nothing is wrong, MIDI/TRANSPOSE LED goes out and SPLIT LED lights.
(When something is wrong with the switch, the LED keeps lighting and the test stops.)

After that, press the each switch whose LED lights and confirm if the each switch works normally.
(When more than two switches are pressed at the same time, the LEDs light and the test stops.)

After pressing last SW, this test proceeds to PEDAL TEST.

2. PEDAL TEST

When PEDAL TEST starts, the condition of the pedals is automatically confirmed.
If a short-circuit happens on any pedals, the LED will light corresponding to each pedal as follows and the test will stop.

SOFT/SOSTENUTE = PIANO, DAMPER = HARPSI

If no short-circuit happens, PIANO and HARPSI LEDs will go on and off.

Next, press each pedal in order of SOFT/SOSTENUTE and DAMPER if each pedal works correctly as follows.

For example when SOFT/SOSTENUTE pedal is pressed, PIANO LED lights.
(HARPSI LEDs is going on and off.)

When the pedal is released, the LED goes out.
But when two pedals are pressed at the same time, the LEDs light and the test doesn't proceed to the next.

After DAMPER pedal is released, this test proceeds to KEYBOARD TEST.

3. KEYBOARD TEST

When KEYBOARD TEST starts, PIANO LED lights.

Press each key by turns from the top key (C8) with the middle strength (20H-60H on MIDI's velosity).
At this time the sound is PIANO.

When the press of the key is not in order or correct, you are warned as follows.

1. When strength of pressing is not adequate, VIBES LED lights and the alarm sounds.

2. When key which is lower than the key that should be pressed is pressed, PIANO LED lights.

3. When key which is higher than the key that should be pressed is pressed, STRINGS LED lights.

This test doesn't proceed to the next key until the correct key pressing is obtained.

If this test doesn't work correctly, check the key contact and IC of SCAN.

After all keys' pressing test is finished, this test proceeds to OFFSET/MSB ADJUSTMENT.

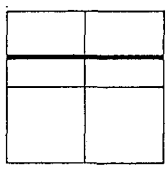
4. OFFSET/MSB ADJUSTMENT

When OFFSET/MSB ADJUSTENT starts, STAGE LED lights.

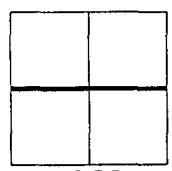
(▭) (▭) (▭)

1. Press A0 key.
   Then, connect the oscilloscope with 9 pin of IC4 (DAC)and GND on KLM-1396 and confirm if the value is 0V.
   If the value isn't correct, turn VR1 on KLM-1396 and adjust it.

◦OFFSET
5mV/1ms



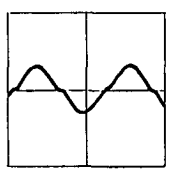
NG



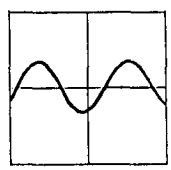
GOOD

2. Press B0 key.
   Then, connect the oscilloscope with AUX OUT L and confirm if the waveform is SIN wave.
   If the waveform isn't correct, turn VR2 on KLM-1396 and adjust it.

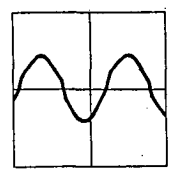
◦MSB
5mV/1ms



NG



GOOD



NG

3. Press B0 key and C1 key alternately.
   Then, confirm if the waveform disappears with well-formed.
   If not, turn VR2 more and adjust MSB.

When PIANO SW is pressed, this test finishes and proceeds to DSP TEST.

5. DSP TEST

When DSP test starts, PIANO LED and E.PIANO LED light.
Then, connect the oscilloscope with AUX OUT L and R.

【 As C-4000 has no DSP, no sound is emitted.
Therefore, press PIANO SW and proceed to TG TEST. 】

Note : As transmission waveform is large on DSP test and TG test, insert a signal cable into the headphone jack not to emit the sound from the speakers.

(▭) (▭) (▭)

1. When A0 key is pressed, the internal oscillation waveform of DSP (uPD6380) is transmitted to AUX OUT L with no transmission from TG.
   Then, confirm if the value is approximate 504Hz/4Vp-p. (VR : MAX)

2. When B0 key is pressed, the internal oscillation waveform of DSP (uPD6380) is transmitted to AUX OUT R with no transmission from TG.
   Then, confirm if the value is approximate 1008Hz/4Vp-p. (VR : MAX)

3. Remove the signal cable from the headphone jack and turn down the VR to be 2-3 temporarily for this check only.
   Then, confirm SIN wave is transmitted from the right speaker and after a short interval it is transmitted from the left speaker when C1 key is pressed.

   If this test doesn't work correctly, check DSP, DA convertor and Analog Circuit.

   When PIANO SW is pressed, this test proceeds to TG TEST.

6. TG TEST

When TG test starts, HARPSI LED lights.
At this time turn up the VR MAX again and insert a signal cable into the headphone jack.

1. When A0 key is pressed,
   C-4000 : a SIN wave of TG is transmitted from AUX OUT L.
   Then, confirm if the value is approximate 489Hz/2.6p-p.
   (VR : MAX)
   C-5500 : a SIN wave whose lower 4 bit of TG is converted at DSP is transmitted from AUX OUT L.
   Then, confirm if the value is approximate 489Hz/3.0Vp-p.
   (VR : MAX)

2. When B0 key is pressed,
   C-4000 : a SIN wave of TG is transmitted from AUX OUT R.
   Then, confirm if the value is approximate 489Hz/2.6Vp-p.
   (VR : MAX)
   C-5500 : a SIN wave of TG is transmitted from AUX OUT L.
   Then, confirm if the value is approximate 489Hz/2.6Vp-p.
   (VR : MAX)

3. When C1 key is pressed,
   C-4000 : a SIN wave of TG is transmitted from PHONES L.
   Then, confirm if the value is approximate 489Hz/2.6Vp-p.
   (VR : MAX)
   C-5500 : a SIN wave of TG is transmitted from AUX OUT R.
   Then, confirm if the value is approximate 489Hz/2.6Vp-p.
   (VR : MAX)

4. When D1 key is pressed,
   C-4000 : a SIN wave of TG is transmitted from PHONES R.
   Then, confirm if the value is approximate 489Hz/2.6Vp-p.
   (VR : MAX)
   C-5500 : a SIN wave of TG is transmitted from PHONES L.
   Then, confirm if the value is approximate 489Hz/2.6Vp-p.
   (VR : MAX)

5. When E1 key is pressed,
   C-5500 : a SIN wave of TG is transmitted from PHONES R.
   Then, confirm if the value is approximate 489Hz/2.6Vp-p.
   (VR : MAX)

   If this test doesn't work correctly, check TG, PCM ROM, and PSC.

   After these tests are finished, press MIDI/TRANSPOSE SW and return to normal mode.

FOR C－30／40

How to start the SELF-TEST

Connect MIDI IN to OUT with a MIDI cable. The SELF-TEST is started by turning the power on while pressing MIDI/TRANSPOSE and SPLIT. After that, LEDs go on and off in the following order

C-30 : SPLIT, MIDI/TRANSPOSE, PIANO, ROOM, E.PIANO, STAGE, HARPSI, HALL, VIBES, ECHO, B/G/D, TREMORO, ORGAN I, CHORUS, ORGAN II, STRINGS.

C-40 : SPLIT, MIDI/TRANSPOSE, PIANO, ROOM, E.PIANO, STAGE, HARPSI, HALL, VIBES, ECHO, B/G/D, TREMORO, ORGAN I, CHORUS, ORGAN II, BRIGHT, STRINGS, SOFT, CHOIR, BRASS.

SWs to operate the SELF-TEST

MIDI/TRANSPOSE : This is used to escape from the SELF-TEST.
STRINGS : The test goes back to the former test by pressing this switch.
PIANO : The test proceeds to the next test by pressing this switch. (But these switches don't work at PANEL SW TEST.)

0. SELF－TEST

The following are automatically checked inside when the SELF-TEST is started.

1. MAIN RAM WR/RD are checked.
When the error happens, PIANO LED goes on and off.

■ : ON ※ : ON & OFF □ : OFF

In this case, check the circuits connected with CPU and RAM(43256A-15).

2. The data of Sound ROM is checked.
When the data of Sound ROM is different, LED on fig. 1 and LED of MIDI/TRANSPOSE go on and off and the test stops.
In this case, check the IC whose LED goes on and off.

	IC19	IC17	IC16	IC14
LED NAME	PIANO	HARPSI	VIBES	ORGAN I

Only ODD data is checked on IC14 and IC17.
Nothing is checked on IC15 and IC18 here.

e.g.) When the data of IC19 is different, LEDs of MIDI/TRANSPOSE and PIANO go on and off.

3. The information of IC(M37450M4) of SCAN and V25 (CPU) is checked.
When the error happens, E.PIANO LED goes on and off.

4. The information of MIDI IN/OUT is checked.
When the error happens, HARPSI LED goes on and off.

1. PANEL SW TEST

When the short-circuit happens, the LED of the switch lights and the test stops.

When no short-circuit happens, MIDI/TRANSPOSE LED lights.
Then, press MIDI/TRANSPOSE SW.

When nothing is wrong, MIDI/TRANSPOSE LED goes out and ROOM LED lights.
(When something is wrong with the switch, the LED keeps lighting and the test stops.)

After that, press the each switch whose LED lights and confirm if the each switch works normally.
(When more than two switches are pressed at the same time, the LEDs light and the test stops.)

After pressing last SW, this test proceeds to PEDAL TEST.

2. PEDAL TEST

When PEDAL TEST starts, the condition of the pedals is automatically confirmed.
If a short-circuit happens on any pedals, the LED will light corresponding to each pedal as follows and the test will stop.

SOFT/SOSTENUTE = PIANO, DAMPER = HARPSI

If no short-circuit happens, PIANO and HARPSI LEDs will go on and off.

Next, press each pedal in order of SOFT/SOSTENUTE and DAMPER if each pedal works correctly as follows.

For example when SOFT/SOSTENUTE pedal is pressed, PIANO LED lights.
(HARPSI LEDs is going on and off.)

When the pedal is released, the LED goes out.
But when two pedals are pressed at the same time, the LEDs light and the test doesn't proceed to the next.

After DAMPER pedal is released, this test proceeds to KEYBOARD TEST.

3. KEYBOARD TEST

When KEYBOARD TEST starts, PIANO LED lights.

Press each key by turns from the top key (C8) with the middle strength (20H-60H on MIDI's velosity).
At this time the sound is PIANO.

When the press of the key is not in order or correct, you are warned as follows.

1. When strength of pressing is not adequate, VIBES LED lights and the alarm sounds.

2. When key which is lower than the key that should be pressed is pressed, PIANO LED lights.

3. When key which is higher than the key that should be pressed is pressed, STRINGS LED lights.
This test doesn't proceed to the next key until the correct key pressing is obtained.

If this test doesn't work correctly, check the key contact and IC of SCAN.

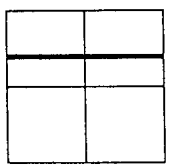
After all keys' pressing test is finished, this test proceeds to OFFSET/MSB ADJUSTMENT.

4. OFFSET/MSB ADJUSTMENT

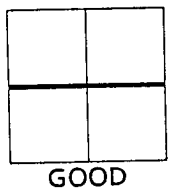
When OFFSET/MSB ADJUSTENT starts, STAGE LED lights.

1. Press A0 key.
Then, connect the oscilloscope with 9 pin of IC4 (DAC)and GND on KLM-1396 and confirm if the value is 0V.
If the value isn't correct, turn VR1 on KLM-1396 and adjust it.

◦OFFSET
5 mV/1ms



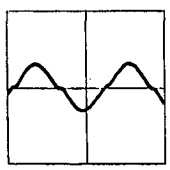
NG



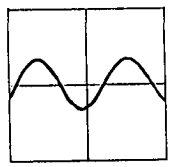
GOOD

2. Press B0 key.
Then, connect the oscilloscope with AUX OUT L and confirm if the waveform is SIN wave.
If the waveform isn't correct, turn VR2 on KLM-1396 and adjust it.

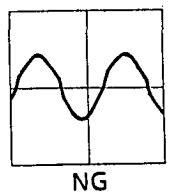
◦MSB
5 mV/1ms



NG



GOOD



NG

Press B0 key and C1 key alternately.
Then, confirm if the waveform disappears with well-formed.
If not, turn VR2 more and adjust MSB.

When PIANO SW is pressed, this test finishes and proceeds to DSP TEST.

5. DSP TEST

When DSP test starts, PIANO LED and E.PIANO LED light.
Then, connect the oscilloscope with AUX OUT L and R.

Note : As transmission waveform is large on DSP test and TG test, insert a signal cable into the headphone jack not to emit the sound from the speakers.

1. When A0 key is pressed, the internal oscillation waveform of DSP (uPD6380) is transmitted to AUX OUT L with no transmission from TG.
   Then, confirm if the value is approximate 504Hz/4Vp-p. (VR : MAX)

2. When B0 key is pressed, the internal oscillation waveform of DSP (uPD6380) is transmitted to AUX OUT R with no transmission from TG.
   Then, confirm if the value is approximate 1.008KHz/4Vp-p. (VR : MAX)

3. Remove the signal cable from the headphone jack and turn down the VR to be 2-3 temporarily for this check only.
   Then, confirm SIN wave is transmitted from the right speaker and after a short interval it is transmitted from the left speaker when C1 key is pressed.

   If this test doesn't work correctly, check DSP, DA convertor and Analog Circuit.

   When PIANO SW is pressed, this test proceeds to TG TEST.

6. TG TEST

When TG test starts, HARPSI LED lights.
At this time turn up the VR MAX again and insert a signal cable into the headphone jack.

1. When A0 key is pressed, a SIN wave whose lower 4 bit of TG is converted at DSP is transmitted from AUX OUT L.
   Then, confirm if the value is approximate 440Hz/6Vp-p. (VR : MAX)

2. When B0 key is pressed, a SIN wave of TG is transmitted from AUX OUT L.
   Then, confirm if the value is approximate 440Hz/6Vp-p. (VR : MAX)

3. When C1 key is pressed, a SIN wave of TG is transmitted from AUX OUT R.
   Then, confirm if the value is approximate 440Hz/6Vp-p. (VR : MAX)

4. Connect the oscilloscope with the headphone jack.
   When D1 key is pressed, a SIN wave of TG is transmitted from PHONES L.
   Then, confirm if the value is approximate 440Hz/6Vp-p. (VR : MAX)

5. When E1 key is pressed, a SIN wave of TG is transmitted from PHONES R.
   Then, confirm if the value is approximate 440Hz/6Vp-p. (VR :MAX)

   If this test doesn't work correctly, check TG, PCM ROM, and PSC.

   After these tests are finished, press MIDI/TRANSPOSE SW and return to normal mode.

FOR C－50

How to start the SELF-TEST

Connect MIDI IN to OUT with a MIDI cable. The SELF-TEST is started by turning the power on while pressing MIDI/TRANSPOSE and SPLIT. After that, LEDs go on and off in the following order
: SPLIT, MIDI/TRANSPOSE, PIANO I, ROOM, PIANO II, STAGE, E.PIANO I, HALL, E.PIANO II, ECHO, HARPSI, TREMORO, VIBES, CHORUS, B/G/D, BRIGHT, STRINGS, ORGAN I, ORGAN II, CHOIR, BRASS, TRACK 1(R), TRACK 1(G), START/STOP, TRACK 2(R), TRACK 2(G), RESET, METRONOME.

SWs to operate the SELF-TEST

MIDI/TRANSPOSE : This is used to escape from the SELF-TEST.
BRASS : The test goes back to the former test by pressing this switch.
PIANO I : The test proceeds to the next test by pressing this switch. (But these switches don't work at PANEL SW TEST.)

0. SELF－TEST

The following are automatically checked inside when the SELF-TEST is started.

1. MAIN RAM WR/RD are checked.
When the error happens, PIANO I LED goes on and off.

■ : ON ※ : ON & OFF □ : OFF

In this case, check the circuits connected with CPU and RAM(43256A-15).

2. The data of Sound ROM is checked.
When the data of Sound ROM is different, LED on fig.1 and LED of MIDI/TRANSPOSE go on and off and the test stops.
In this case, check the IC whose LED goes on and off.

	IC22	IC18	IC23	IC19
LED NAME	PIANO I	E.PIANO I	E.PIANO II	VIBES

Only ODD data is checked on IC18 and IC19.
Nothing is checked on IC24 and IC25 here.

e. g.) When the data of IC22 is different, LEDs of MIDI/TRANSPOSE and PIANO I go on and off.

3. The information of IC(M37450M4) of SCAN and V25 (CPU) is checked.
When the error happens, PIANO II LED goes on and off.

4. The information of MIDI IN/OUT is checked.
When the error happens, E. PIANO I LED goes on and off.

1. PANEL SW AND TEMPO VR TEST

When the short-circuit happens, the LED of the switch lights and the test stops.

When no short-circuit happens, MIDI/TRANSPOSE LED lights.
Then, press MIDI/TRANSPOSE SW.

When nothing is wrong, MIDI/TRANSPOSE LED goes out and ROOM LED lights.
(When something is wrong with the switch, the LED keeps lighting and the test stops.)

After that, press the each switch whose LED lights and confirm if the each switch works normally.
(When more than two switches are pressed at the same time, the LEDs light and the test stops.)

After pressing BRASS SW, this test proceeds to TEMPO VR TEST and the green LED of TRACK 1 lights.

From ROOM to SOFT the upper eight LEDs light according to the location of VR.
When the knob is set to be the slowest, only ROOM LED lights and when the knob is set to be the fastest, the eight LEDs light.
If the LEDs don't light like that, check the TEMPO VR.

Next, the test goes back to the test for the rest of the switches by pressing TRACK 1 SW which is lighting.

When nothing is wrong, this green LED goes out and the green LED of TRACK 2 goes on and off.

When this switch is pressed and nothing is wrong, this LED goes out and METRONOME LED goes on and off.

When METRONOME SW is presssed and nothing is wrong, METRONOME LED goes out and the red LEDs of TRACK 1 and TRACK 2 go on and off.

When RECORD SW is pressed, the red LEDs of TRACK 1 and TRACK 2 go out and STAR/STOP LED goes on and off.

When START/STOP SW is pressed, START/STOP LED goes out and RESET LED goes on and off.

When RESET SW is pressed, RESET LED goes out and this test proceeds to PEDAL TEST.

2. PEDAL TEST

When PEDAL TEST starts, the condition of the pedals is automatically confirmed.
If a short-circuit happens on any pedals, the LED will light corresponding to each pedal as follows and the test will stop.

SOFT = ROOM, SOSTENUTE = STAGE, DAMPER = HALL

If no short-circuit happens, ROOM, STAGE and HALL LEDs will go on and off.

Next, press each pedal in order of SOFT, SOSTENUTE and DAMPER if each pedal works correctly as follows.

For example when SOFT pedal is pressed, ROOM LED lights. (STAGE and HALL LEDs are going on and off.)

When the pedal is released, the LED goes out.
But when two or three pedals are pressed at the same time, the LEDs light and the test doesn't proceed to the next.

After DAMPER pedal is released, this test proceeds to KEYBOARD TEST.

3. KEYBOARD TEST

When KEYBOARD TEST starts, ROOM LED lights.

Press each key by turns from the top key (C8) with the middle strength (20H-60H on MIDI's velosity).
At this time the sound is PIANO I.

When the press of the key is not in order or correct, you are warned as follows.

1. When strength of pressing is not adequate, VIBES LED lights and the alarm sounds.

2. When key which is lower than the key that should be pressed is pressed, PIANO I LED lights.

3. When key which is higher than the key that should be pressed is pressed, BRASS LED lights.
   This test doesn't proceed to the next key until the correct key pressing is obtained.

If this test doesn't work correctly, check the key contact and IC of SCAN.

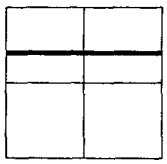
After all keys' pressing test is finished, this test proceeds to OFFSET/MSB ADJUSTMENT.

4. OFFSET/MSB ADJUSTMENT

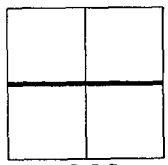
When OFFSET/MSB ADJUSTENT starts, STAGE LED lights.

1. Press A0 key.
   Then, connect the oscilloscope with 9 pin of IC7 (DAC)and GND on KLM-1399 and confirm if the value is 0V.
   If the value isn't correct, turn VR2 on KLM-1399 and adjust it.

∘OFFSET
5 mV/1ms



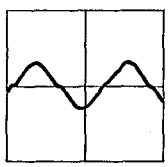
NG



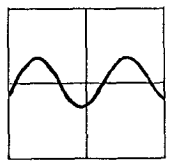
GOOD

2. Press B0 key.
   Then, connect the oscilloscope with AUX OUT L and confirm if the waveform is SIN wave.
   If the waveform isn't correct, turn VR1 on KLM-1399 and adjust it.

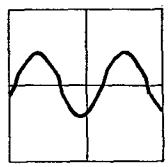
∘MSB
5 mV/1ms



NG



GOOD



NG

Press B0 key and C1 key alternately.
Then, confirm if the waveform disappears with well-formed.
If not, turn VR1 more and adjust MSB.

When PIANO I SW is pressed, this test finishes and proceeds to DSP TEST.

5. DSP TEST

When DSP test starts, HALL LED lights.
Then, connect the oscilloscope with AUX OUT L and R.

Note : As transmission waveform is large on DSP test and TG test, insert a signal cable into the headphone jack not to emit the sound from the speakers.

1. When A0 key is pressed, the internal oscillation waveform of DSP (uPD6380) is transmitted to AUX OUT L with no transmission from TG.
   Then, confirm if the value is approximate 504Hz/4Vp-p. (VR : MAX)

2. When B0 key is pressed, the internal oscillation waveform of DSP (uPD6380) is transmitted to AUX OUT R with no transmission from TG.
   Then, confirm if the value is approximate 1008Hz/4Vp-p. (VR : MAX)

3. Remove the signal cable from the headphone jack and turn down the VR to be 2-3 temporarily for this check only.
   Then, confirm SIN wave is transmitted from the right speaker and after a short interval it is transmitted from the left speaker when C1 key is pressed.

If this test doesn't work correctly, check DSP, DA convertor and Analog Circuit.

When PIANO I SW is pressed, this test proceeds to TG TEST.

6. TG TEST

When TG test starts, ECHO LED lights.
At this time turn up the VR MAX again and insert a signal cable into the headphone jack.

1. When A0 key is pressed, a SIN wave whose lower 4 bit of TG (IC14) is converted at DSP is transmitted from AUX OUT L.
   (Another TG (IC15) doesn't transmit anything here)
   Then, confirm if the value is approximate 440Hz/6Vp-p. (VR : MAX)

2. When B0 key is pressed, a SIN wave whose lower 4 bit of TG (IC15) is converted at DSP is transmitted from AUX OUT R.
   (IC14 doesn't transmit anything here)
   Then, confirm if the value is approximate 440Hz/6Vp-p. (VR : MAX)

3. When C1 key is pressed, a SIN wave of TG (IC14) only is transmitted from AUX OUT L.
   (IC15 doesn't transmit anything here)
   Then, confirm if the value is approximate 440Hz/6Vp-p. (VR : MAX)

4. When D1 key is pressed, a SIN wave of TG (IC15) only is transmitted from AUX OUT R.
   (IC14 doesn't transmit anything here)
   Then, confirm if the value is approximate 440Hz/6Vp-p. (VR : MAX)
5. When E1 key is pressed, two SIN waves, which mix TG (IC14, IC15), are transmitted from AUX OUT L and AUX OUT R one by one.
   Then, confirm if the value from AUX OUT L is approximate 880Hz/6p-p and the value from AUX OUT R is approximate 440Hz/6Vp-p. (VR : MAX)

6. Connect the oscilloscope with the headphone jack.
   When F1 key is pressed, a SIN wave is transmitted from PHONES L.
   Then, confirm if the value is approximate 440Hz/6Vp-p.

7. Connect the oscilloscope with the headphone jack.
   When G1 key is pressed, a SIN wave is transmitted from PHONES R.
   Then, confirm if the value is approximate 440Hz/6Vp-p.

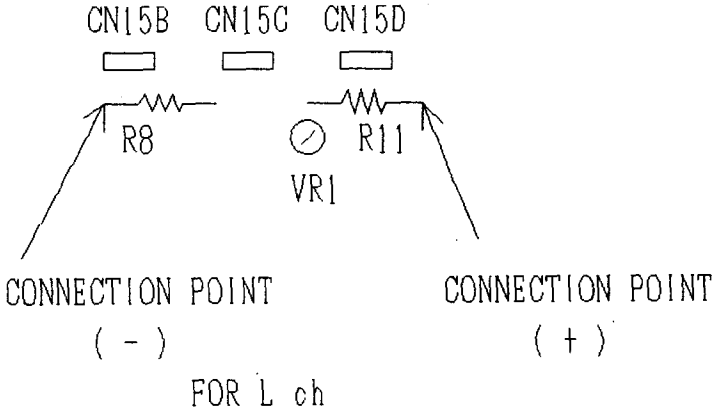
   If this test doesn't work correctly, check TG, PCM ROM, MIX and PSC.

   After these tests are finished, press MIDI/TRANSPOSE SW and return to normal mode.

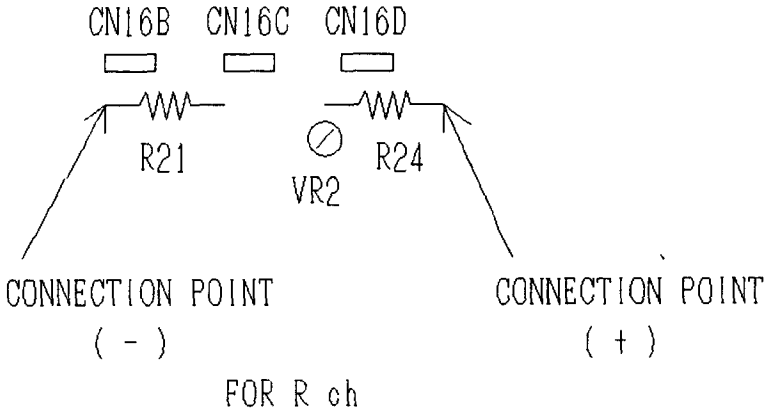
ADJUSTMENT OF KLM-1403 P. C. B.

※Execute this adjustment by all means when you change Power Transistor, Power Amplifier IC (UPC1270H) and so on. Then, execute this adjustment after more than 10 minutes passing since the power is turned on.

1. Connect Digital Volt Meter to R8 and R11 on KLM-1403 as follows and adjust with VR1 as the value of the measurement is 17mV ± 10% .



2. Connect Digital Volt Meter to R21 and R24 on KLM-1403 as follows and adjust with VR2 as the value of the measurement is 17mV ± 10% .



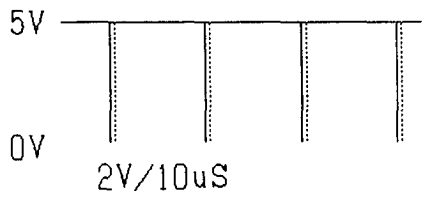
9. IC CHECK POINT FOR C-SERIES

MB87726 (TG88)

1. Is Reset Signal received into XREST ?

2. Is Master Clock of 32MHz received into CLK ?

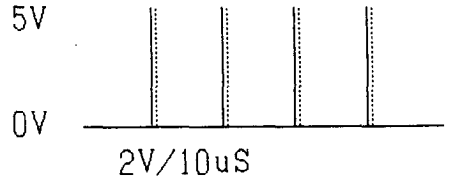
3. Is Synchronizing Signal of TG transmitted from CCRO ?



4. Is 16MHz to TG and to PSC transmitted from CLKO?

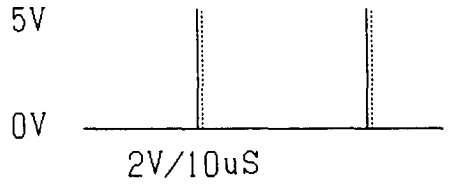
5. Are Address Signals from CPU received into A0～A9 and are Data from CPU received into D0～D7?

6. Is Chip Select Signal of PCM ROM transmitted from WBO?



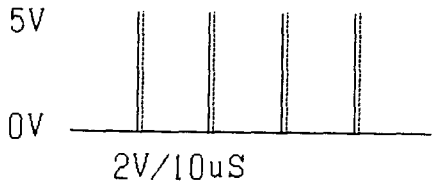
Every time the key is pressed, the number of pulse increases.
There are some sounds which don't transmit the pulse.

7. Are Address Signals of Wave Memory transmitted from WA0～WA19?



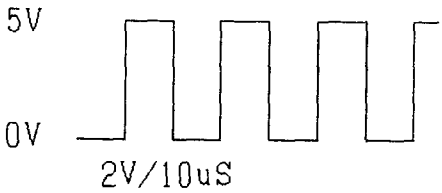
Every time the key is pressed, the number of pulse increases.

8. Are Odd Data received into OWD0～OWD15 and are Even Data received into EWD0～EWD15?



Every time the key is pressed, the number of pulse increases.

9. Are Wave Data transmitted from OD0～OD19?



When the key is pressed, this data is transmitted.

※ There are some OD terminals which don't transmit Data.

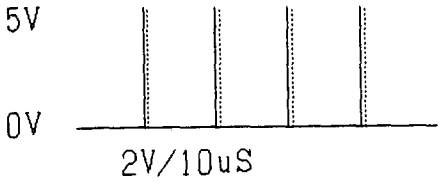
uPD65013-GF-A74 (MIX)

1. Is Reset Signal received into RESET ?
2. Are Data from TG received into AD0～AD19, BD0～BD19?
3. Are the mixed Data transmitted from OD0～OD20 to PSC?

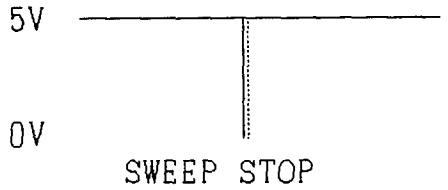
uPD65013-GF-C23 (PSC)

1. Is Reset Signal received into RES ?
2. Is Master Clock 16MHz received into MCLK ?
3. Is Chip Select Signal from CPU received into CSI ?

4. Is Data Fetch Timming Pulse from TG received into LE0, LE1?

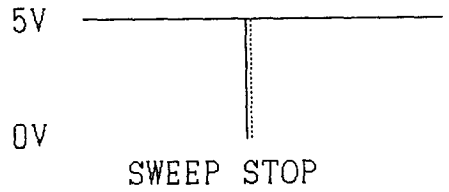


5. Is Acknowledge Signal from DSP received into RDYIN ?



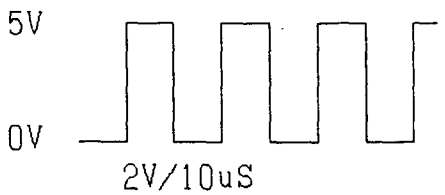
When the power is turned on, Low Pulse is transmitted for one time.

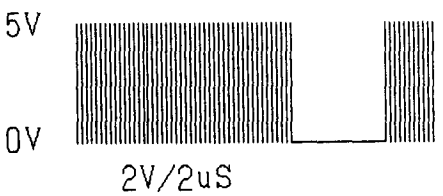
6. Is Chip Select Signal to DSP transmitted from CS0 ?



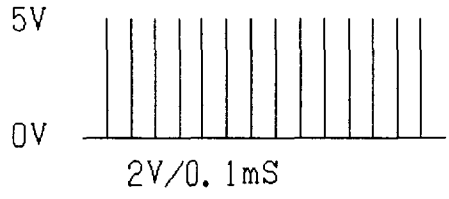
When the power is turned on, Low Pulse is transmitted for one time.

7. Is L/R Clock to DSP transmitted from LRCK terminal and is Bit Clock to DSP transmitted from BCLK ?





8. Is Serial Data to DSP transmitted from DATA ?

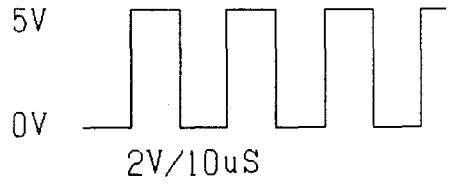


While the key is pressed only, High Pulse is transmitted.
SDO : As well as PSC DATA while the key is pressd only High Pulse is transmitted.

9. Is Serial Data from DSP received into SDI ?

10. Is Serial Data to DA convertor transmitted from SDO ?

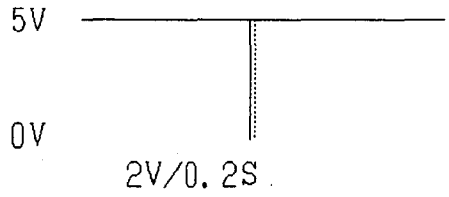
11. Is L/R Control Signal to SAMPLE/HOLD Circuit transmitted from LSH, RSH ?



uPD6380G (DSP)

1. Is Reset Signal received into RST ?

2. Is Reset Signal received into RST2 when Effect Switch of Panel is turned ON/OFF?



When the effect is turned on/off, Low Pulse is received.

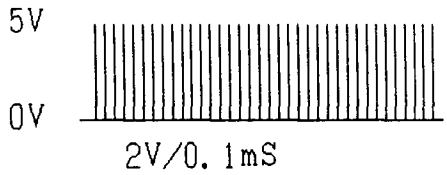
3. Is Master Clock received into XI and XO ?

4. Is Serial Data from PSC received into DI1 ?

5. Are Control Signals from PSC received into BCK1 and LRCK ?

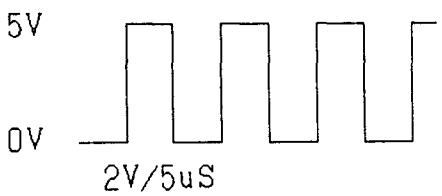
6. Are Control Signals to RAM (M5M4464AL-10) transmitted from RAS, CAS, WE ?

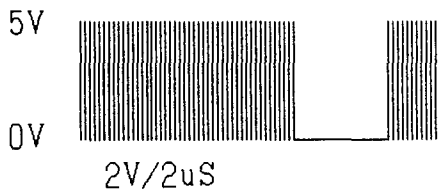
7. Is Serial Data to PSC transmitted from DO1 ?



While the key is pressed only, High Pulse is transmitted.

8. Are Control Data to DA Convertor transmitted from BCKO and WCKO ?





MB37450M4-233FP (SCAN)

1. Is Reset Signal received into RESET ?

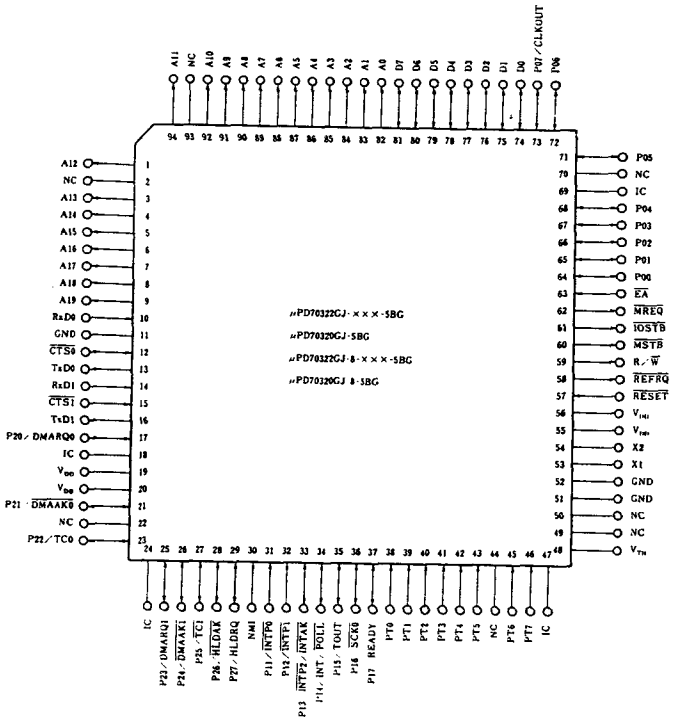
2. Is Clock from CPU received into XIN ?

3. Is Data which is scanned transmitted from TXD to CPU?

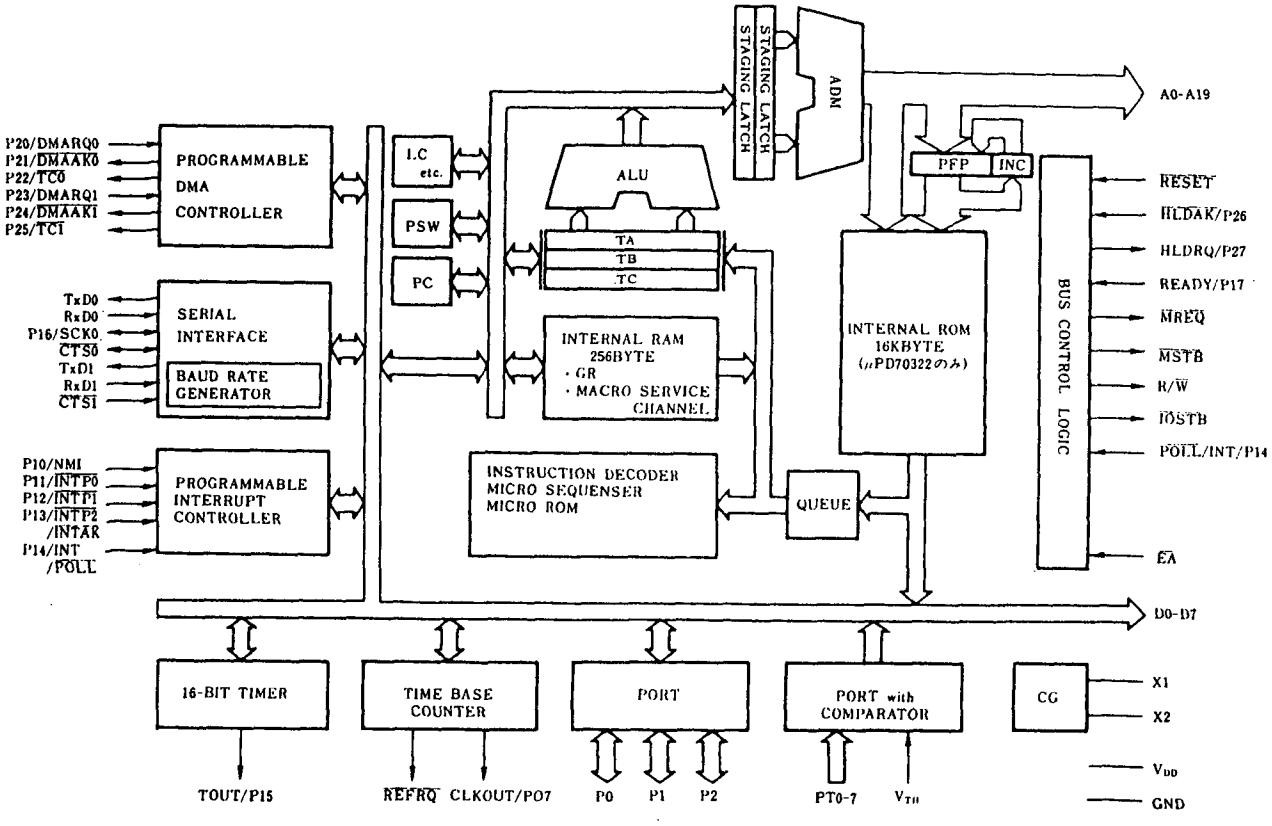
When the key is pressed or released, High Pulse is transmitted.

10. REFERENCE DATA
FOR MAIN ICS

μPD70320GJ-8-5BG
PIN ASSIGNMENT



μPD70320GJ-8-5BG
INTERNAL BLOCK DIAGRAM



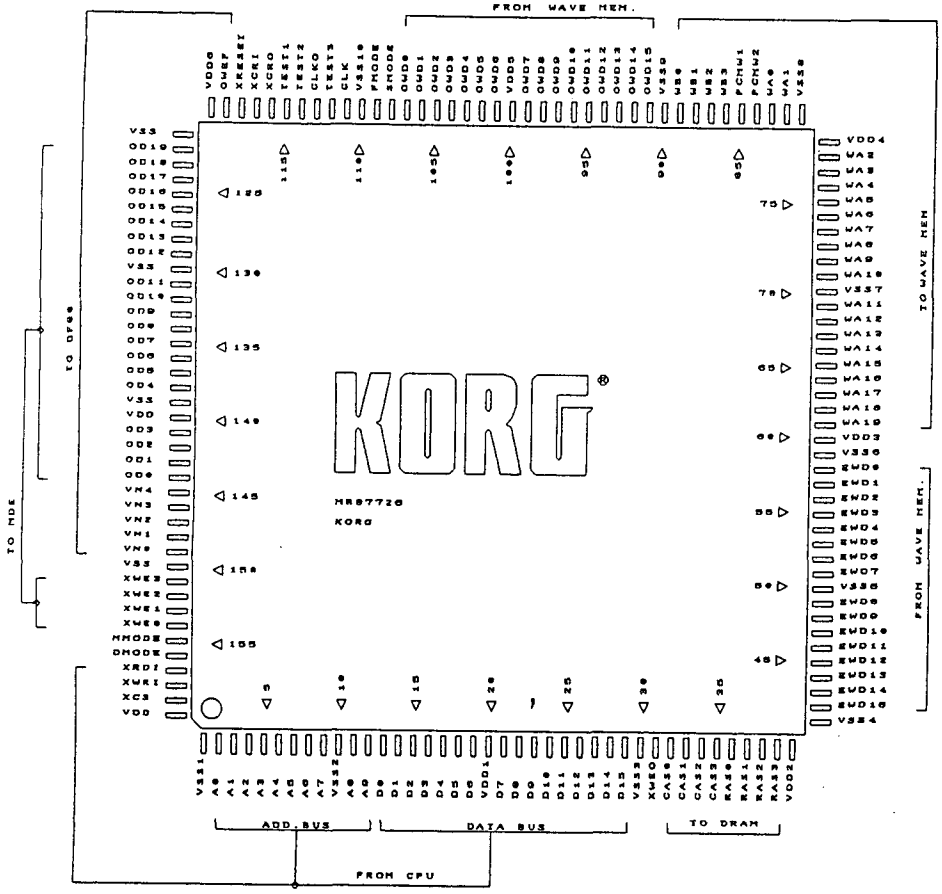
μPD70320GJ-8-5BG (CPU)

PIN FUNCTION

PIN NAME	I/O	FUNCTION	PIN NAME	I/O	FUNCTION
P00-P07	I/O	8-bit I/O Port	VTH	I	Comparator for Reference Volt.
P10/12/13	I	Input Port	RESET		Reset Pulse
INTP0		Interrupt Request	EA		ROM Less Mode Select
P14/15/17	I/O	I/O Port	X1		Crystal for System Clock
SCK0	0	Serial Clock	X2		
P20-27	I/O	8-bit I/O Port	D0-D7	I/O	8-bit Data Bus
PT0-PT7	I	8-bit Input Port	A0-A19	0	20-bit Address
TXD0	0	Serial Data Output	MREQ		Memory Request
TXD1			MSTB		Memory Strobe
RXD0	I	Serial Data Input	R/W		Read / Write Pulse
RXD1			IOSTB		I/O Strobe
CTS0	I/O	CTS IN / Recive Clock	VDD		Power Supply (+)
CTS1	I	CTS IN	GND		GND
REFRQ	0	Refresh Pulse for D-RAM	IC		Internal Connect

MB87726

PIN ASSIGNMENT



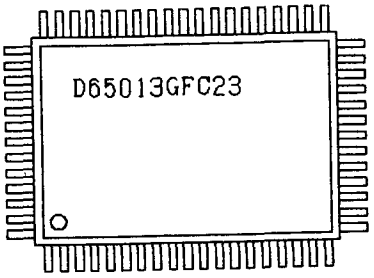
TG88(MB87726)

PIN FUNCTION

PIN NAME	I/O	FUNCTION
VDD	-	+5V
VSS	-	GND
SMODE	I	Sub TG Mode (H:Sub TG L:Master TG)
FMODE	I	Sampling Rate Switch (H:48KHz L:30KHz)
XRESET	I	Low Active Initial Clear
CLK	I	Master clock
XCRO	O	System Counter Reset for Sub TG Chip
XCRI	I	System Counter Reset from Master TG Chip
TEST0-3	I	Test Mode Selector
XCSI	I	Chip Select
XWRI	I	Write Pulse Input from CPU
XRDI	I	Read Pulse Input from CPU
A0-9	I	Address Input from CPU
D0-7	I/O	Data Input from CPU
D8-15	I/O	Data Input for 16bit Data Bus
DMODE	I	CPU I/F Data Bus Syze Select (L:8bit H:16bit)
EWD0-15	I	Even-address Wave Data in (from Wave ROM)
OWD0-15	I	Odd-address Wave Data in (from Wave ROM)
WA0-19	O	Address Bus for Wave ROM or RAM
WB0-3	O	Bank Number out for Wave ROM (16 Banks)
OD0-19	O	Voice Data out for External Filters or MDE
VN0-4	O	Voice Number out
RAS0-3	O	for D-RAM
CAS0-3	O	for D-RAM
OWE0-3	O	Write Enable for MDE
OWEF	O	Write Enable for New Filter Chip (MB87727)

µPD65013GFC23

PIN ASSIGNMENT



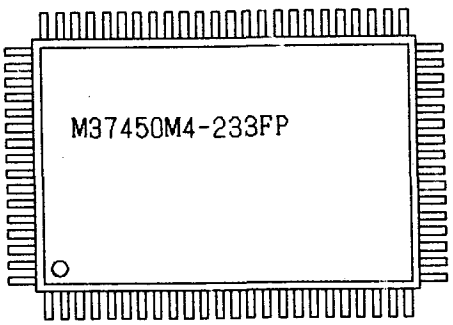
µPD65013-GF-C23 (PSC)

I/O FUNCTION

PIN NO.	I/O	MARK	PIN NO.	I/O	MARK	PIN NO.	I/O	MARK	PIN NO.	I/O	MARK
1	-	N. C	17	I	SFT1	33	I	LE0	49	I	ID14
2	O	SDO	18	I	RD	34	I	LE1	50	I	ID15
3	O	DATA	19	I	WR	35	I	ID00	51	I	ID16
4	O	LRCK	20	I	CS1	36	I	ID01	52	I	ID17
5	O	BCLK	21	I	A0	37	I	ID02	53	I	ID18
6	O	WCLK	22	I	A1	38	I	ID03	54	I	ID19
7	O	LSH	23	I/O	D00	39	I	ID04	55	I	MCLK
8	O	RSH	24	I/O	D01	40	I	ID05	56	I	RES
9	I	TES0	25	I/O	D01	41	I	ID06	57	I	RDY
10	I	TES1	26	-	GND	42	I	ID07	58	-	GND
11	-	N. C	27	-	VDD	43	I	ID08	59	O	CSO
12	-	N. C	28	I/O	D03	44	I	ID09	60	O	CD
13	-	N. C	29	I/O	D04	45	I	ID10	61	O	SO
14	-	N. C	30	I/O	D05	46	I	ID11	62	O	SCK
15	-	N. C	31	I/O	D06	47	I	ID12	63	I	SI
16	I	SFT0	32	I/O	D07	48	I	ID13	64	I	SDI

M37450M4-233FP

PIN ASSIGNMENT



M37450M-4-233FP (SCAN)

PIN FUNCTION

PIN MARK	PIN NAME	I/O	PIN MARK	PIN NAME	I/O
VCC. VSS	POWER SUPPLY	-	P50～P57	I/O PORT 5	I/O
CNVSS	CNVSS	I	P60～P67	I/O PORT 6	I/O
RESET	RESET IN	I	VREF	REFERENCE VOLT.	I
XIN	CLOCK IN	I	ADVREF	A-D REF. VOLTAGE	I
XOUT	CLOCK OUT	O	DAVREF	D-A REF. VOLTAGE	I
¢	TIMMING OUT	O	AVSS	ANALOG VSS	-
SYNC	SYNC. SIGNAL OUT	O	AVCC	ANALOG VCC	-
R/W	READ/WRITE STATUS OUT	O	D-A1 D-A2	ANALOG OUT	O O
P00～P07	I/O PORT 0	I/O	RD	READ SIG. OUT	O
P10～P17	I/O PORT 1	I/O	WR	WRITE SIG. OUT	O
P20～P27	I/O PORT 2	I/O	RESETOUT	RESET SIG. OUT	O
P30～P37	I/O PORT 3	I/O	RXD	SERIAL DATA IN	I
P40～P42	I/O PORT 4	I	TXD	SERIAL DATA OUT	O

μPD65013GFA74

PIN ASSIGNMENT

μPD65013-GF-C23 (PSC)

PIN FUNCTION

RES	(in)	: System Reset from CPU
TES0	(in)	: Test Mode Select (Normal Mode : GND)
TES1	(in)	: Test Mode Select (Normal Mode : GND)
MCLK	(in)	: System Clock from TG88 16MHz (CLK0)
LE0-1	(in)	: Latch Enable from TG88
ID00-19	(in)	: PCM Data In from TG88
DATA	(out)	: PCM Data Serial Out to UPD6380 or PCM61P
BCLK	(out)	: Bit Clock for PCM Data Serial out to UPD6380 or PCM61P
LRCK	(out)	: L/R Clock for PCM Data Serial out to UPD6380
WCLK	(out)	: Word Clock for PCM Data Serial out to PCM61P
SI	(in)	: Data Serial In from UPD6380 (SO)
SO	(out)	: Data Serial Out to UPD6380 (SI)
SCK	(out)	: Clock Out for Data Serial Out to UPD6380 (SCK)
CD	(out)	: Command / Data select out for data serial out to UPD6380 (C/D)
CS0	(out)	: Chip Select to UPD6380 (CS)
SDI	(in)	: Serial Data Register Input for DSP-PCM61P I/F
SDO	(out)	: Serial Data Register Output for DSP-PCM61P I/F
RDY	(in)	: Ready Input from UPD6380 (RDY)
D0-7	(bus)	: CPU Data Bus
CSI	(in)	: Chip Select from CPU System
WR	(in)	: Write Enable from CPU
RD	(in)	: Read Enable from CPU
A0	(in)	: Address in from CPU
A1	(in)	: Address in from CPU
SFT0-1	(in)	: Shift Control in

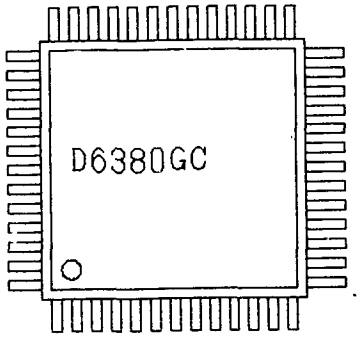
μPD65013-GF-A74 (MIX)

PIN FUNCTION

RESET	(in)	: Reset
CLK	(in)	: Master Clock
MODE	(in)	: Mode 0 : Channel MIX 1 : Voice MIX
AV4-0	(in)	: Voice Number input
AV04-0	(out)	: Voice Number output
AD20-0	(in)	: Data Input A from TG88
BD20-0	(in)	: Data Input B from TG88
AWEF	(in)	: OWEF from TG88
BWEF	(in)	: OWEF from TG88
OD20-0	(out)	: Data output

μPD6380GC

PIN ASSIGNMENT



μPD6380G (DSP)

CLASSIFICATION

CLASSIFICATION	PIN NAME
SYSTEM CLOCK	X1. X2. EOSC. SEL
CPU INTERFACE	CS. C/D. RDY. OVF. GF SI. SO. SCK RST2. BR-RQ. BR-AK DO-RQ. Fs-RST
AUDIO SIGNAL INTERFACE	DI1. DO1. DI2. DO2 LRCK1. BCLK1. LRCK2 BCLK2
A/D. D/A SUPPORT	XFs. BCLK0. WCLK0 LRCK0. APTL0. APTR0
EXTERNAL RAM INTERFACE(FOR DELAY)	RAS. CAS. WE A7-A0. I/O 4-I/O 1
OTHERS	RST. VDD. GND

μPD6380G (DSP)

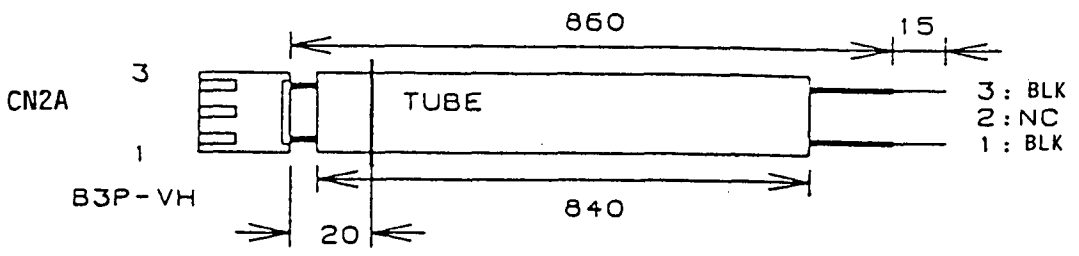
PIN FUNCTION

PIN NO.	PIN NAME	MARK	I/O
20. 46	POWER SUPPLY (+)	VDD	-
7. 14. 33	GND	GND	-
15	CRYSTAL IN	XI	-
16	CRYSTAL OUT	XO	-
17	EXTERNAL CLOCK	ESOC	I
18	CLOCK SELECT INPUT	SEL	I
52	CHIP SELECT	CS	I
51	COMMAND / DATA INPUT	C/D	I
50	SERIAL DATA INPUT	SI	I
48	SERIAL DATA OUTPUT	SO	0
49	CLOCK INPUT FOR SERIAL DATA	SCK	I
1	READY OUTPUT	RDY	0
6	RESET INPUT	RST	I
5	RESET 2 INPUT	RST2	I
4	Fs RESET INPUT	Fs-RST	I
3	BREAK REQUEST INPUT	BR-RQ	I
2	BREAK AKNOWLEDGE OUTPUT	BR-AK	0
44	DATA OUT REQUEST INPUT	DO-RQ	I
47	OVER FLOW OUTPUT	OVF	0
45	GENERAL FLAG OUTPUT	GF	0
40	DATA INPUT 1	DI1	I
42	DATA INPUT 2	DI2	I

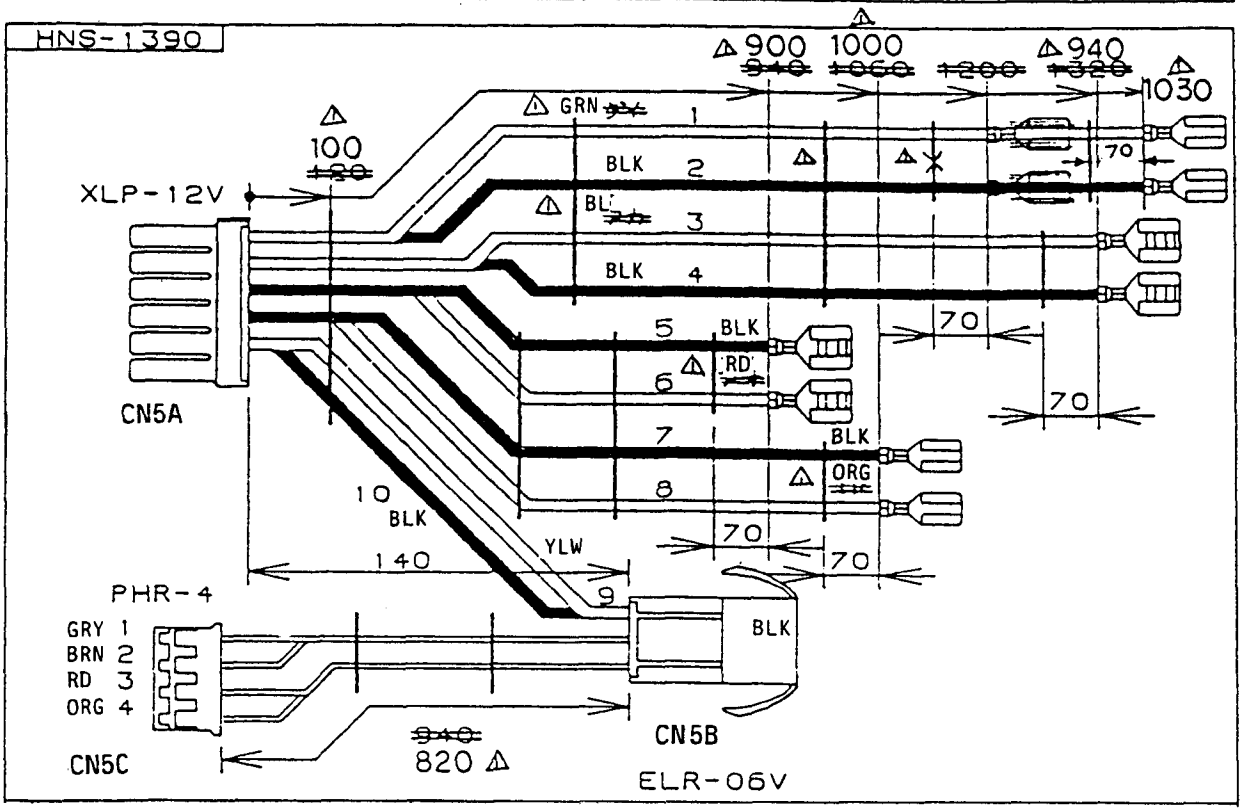
PIN NO.	PIN NAME	MARK	I/O
41	DATA OUTPUT 1	DO1	0
43	DATA OUTPUT 2	DO2	0
36	BIT CLOCK INPUT 1	BCLK1	I
38	BIT CLOCK INPUT 2	BCLK2	I
37	L/R CLOCK INPUT 1	LRCK1	I
39	L/R CLOCK INPUT 2	LRCK2	I
27 ~ 19	ADDRESS OUTPUT FOR EXTERNAL RAM	A7-A0	0
35. 34 32. 31	DATA INPUT/OUTPUT FOR EXTERNAL RAM	I/04 -I/01	I/0
30	WRITE ENABLE OUTPUT FOR EXTERNAL RAM	WE	0
29	COLUMN ADDRESS STROBE	CAS	0
28	ROW ADDRESS STROBE	RAS	0
13	CONTROL CLOCKOUT FOR DAC	XFs0	0
12	BIT CLOCK OUTPUT	BCLK0	0
10	L/R CLOCK OUTPUT	LRCK0	0
11	WORD CLOCK OUTPUT	WCLK0	0
9	APERTURE R CH OUTPUT	APTR0	0
8	APERTURE L CH PUTPUT	APTL0	0

FOR HARNESSES

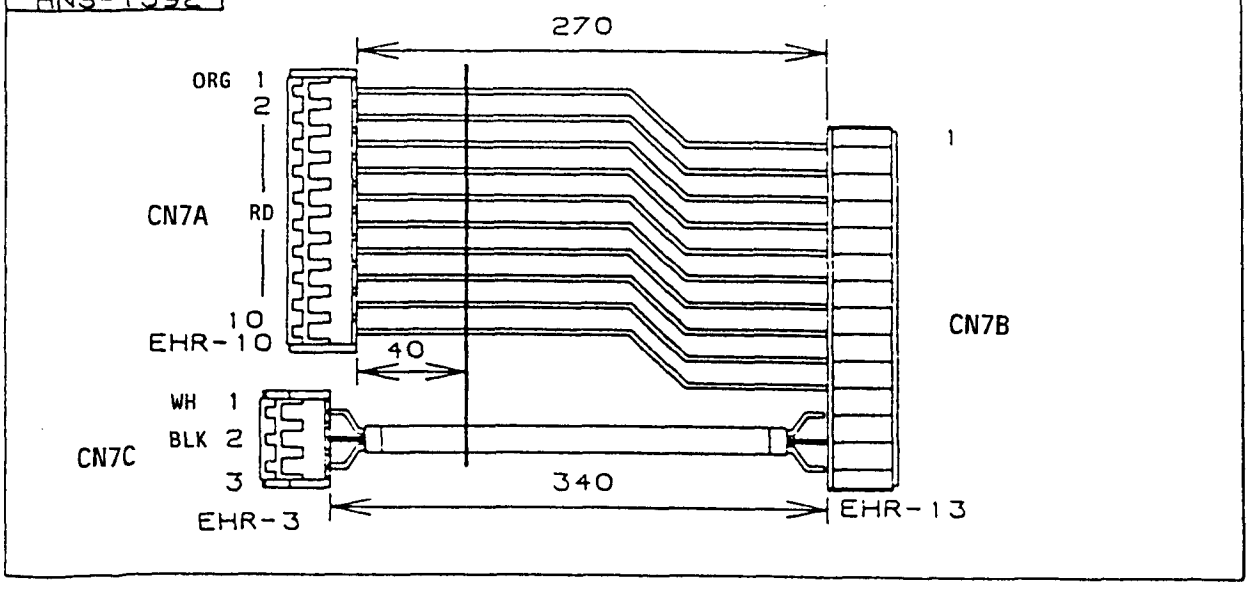
HNS-1389

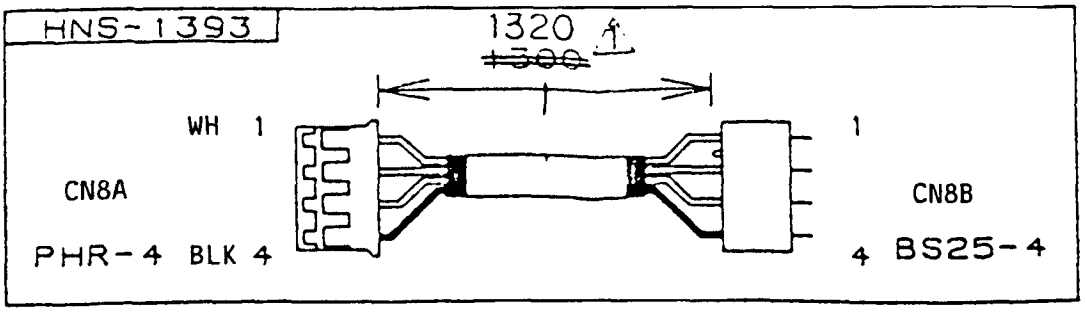


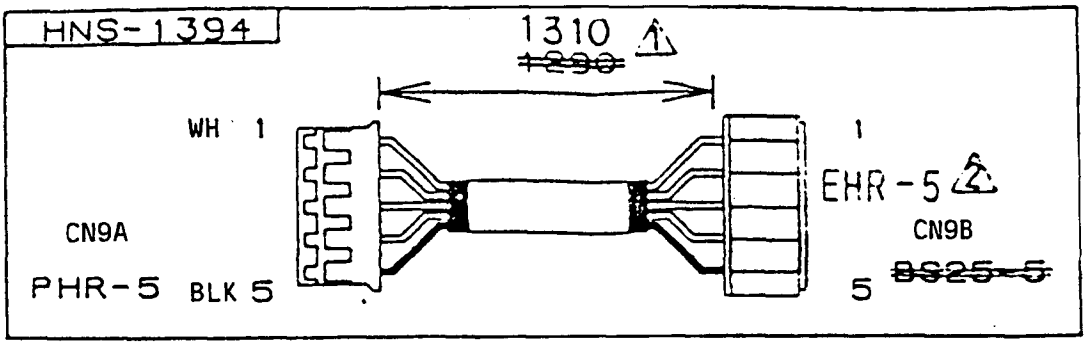
HNS-1390

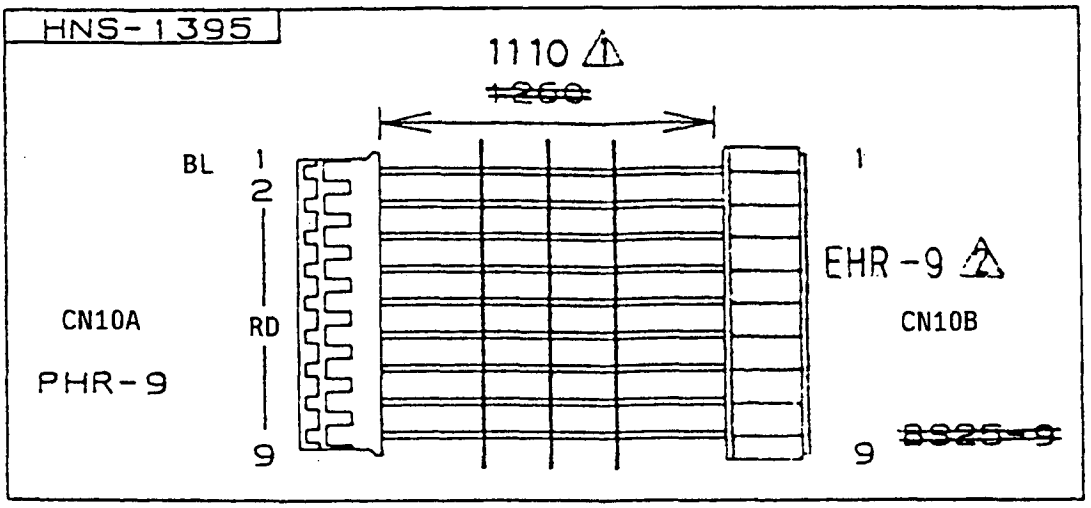


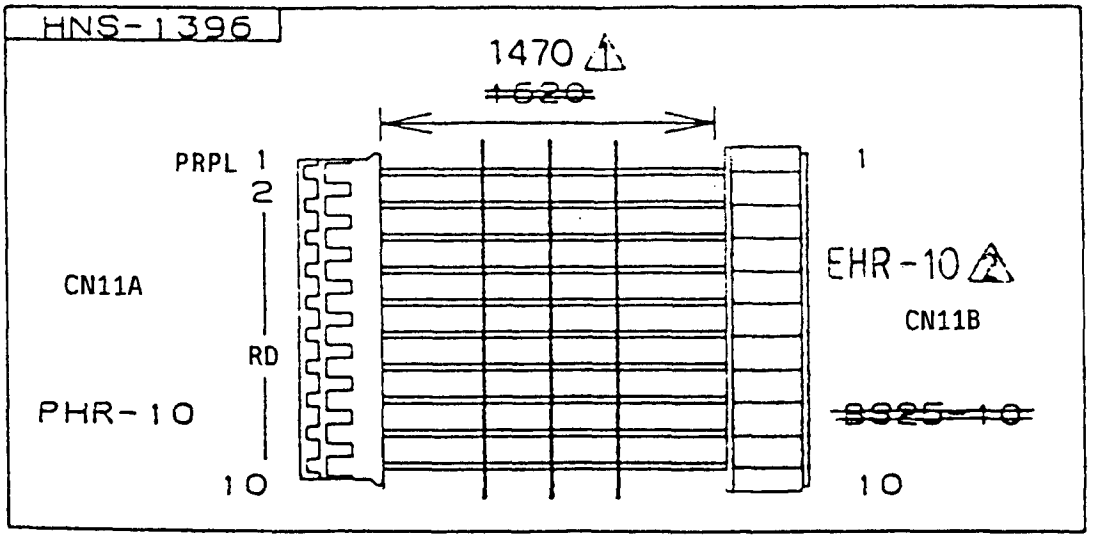
HNS-1392

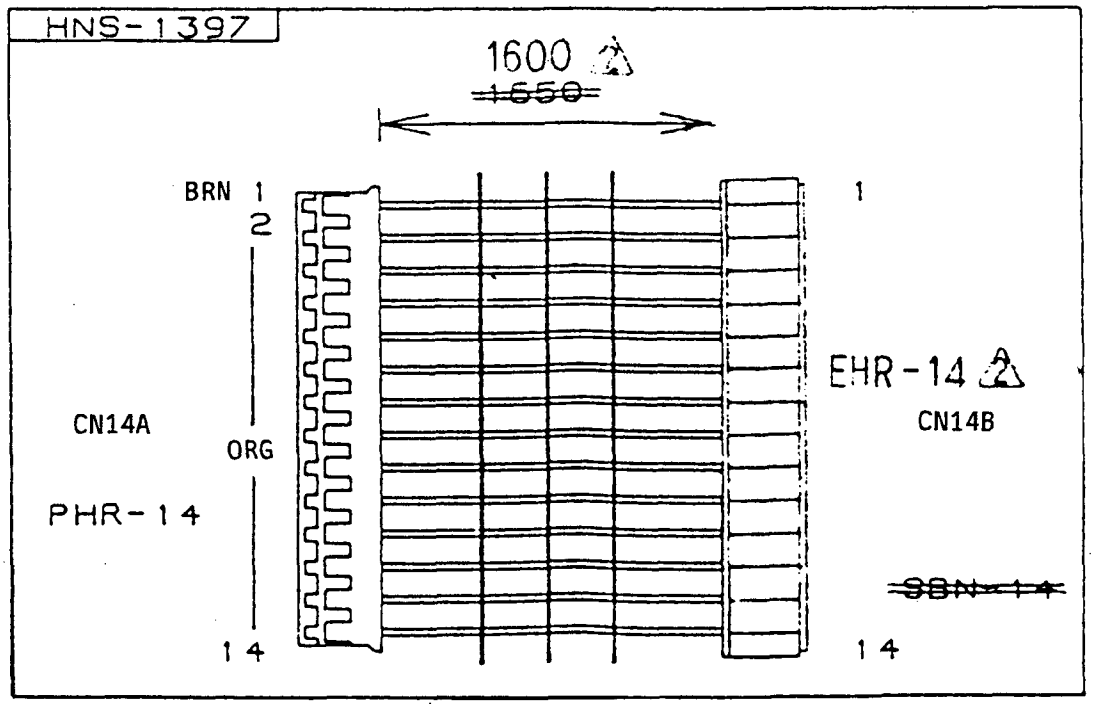


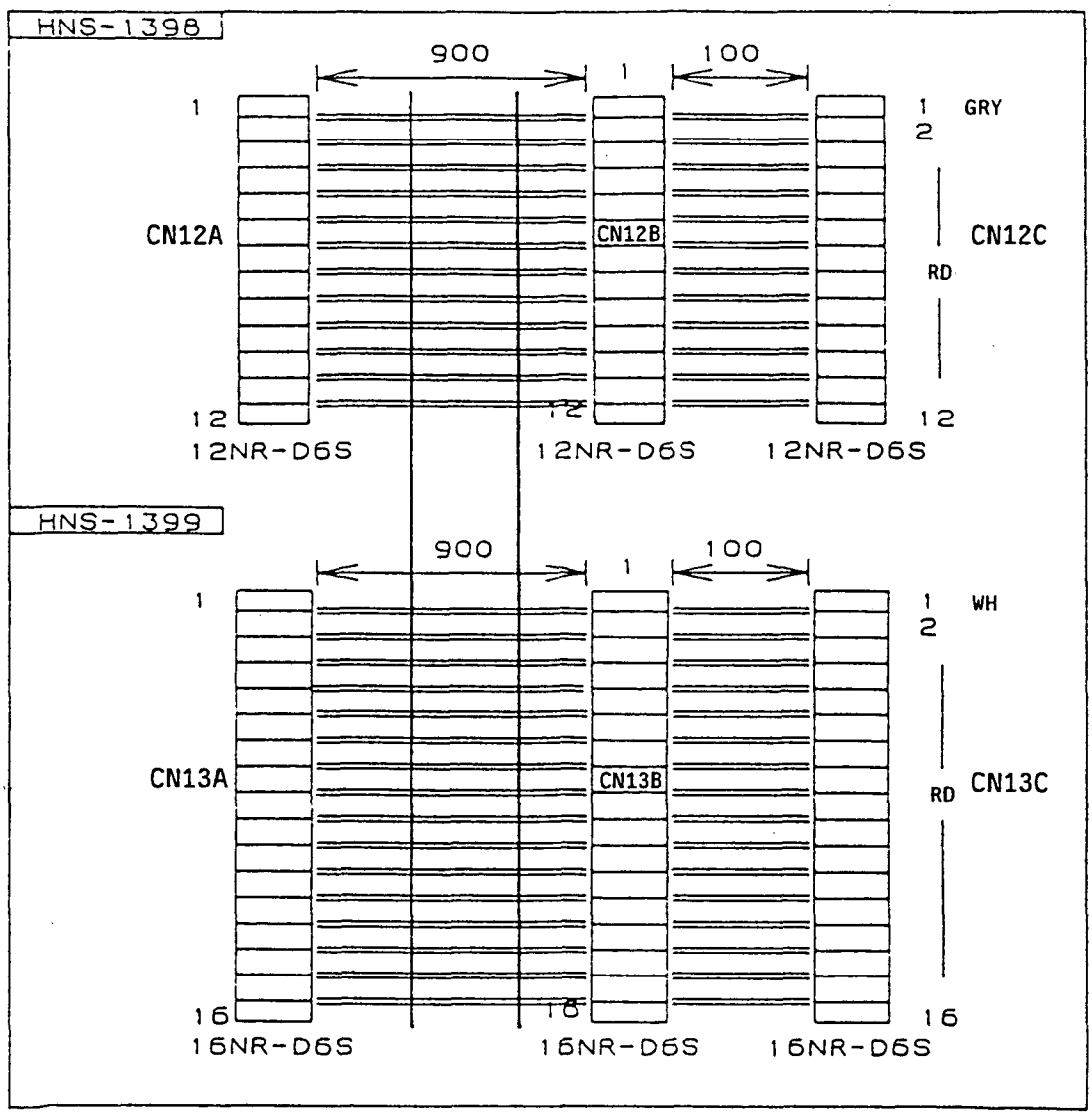

HNS-1393
1320
~~1300~~
WH 1
1
CN8A
CN8B
PHR-4 BLK 4
4 BS25-4

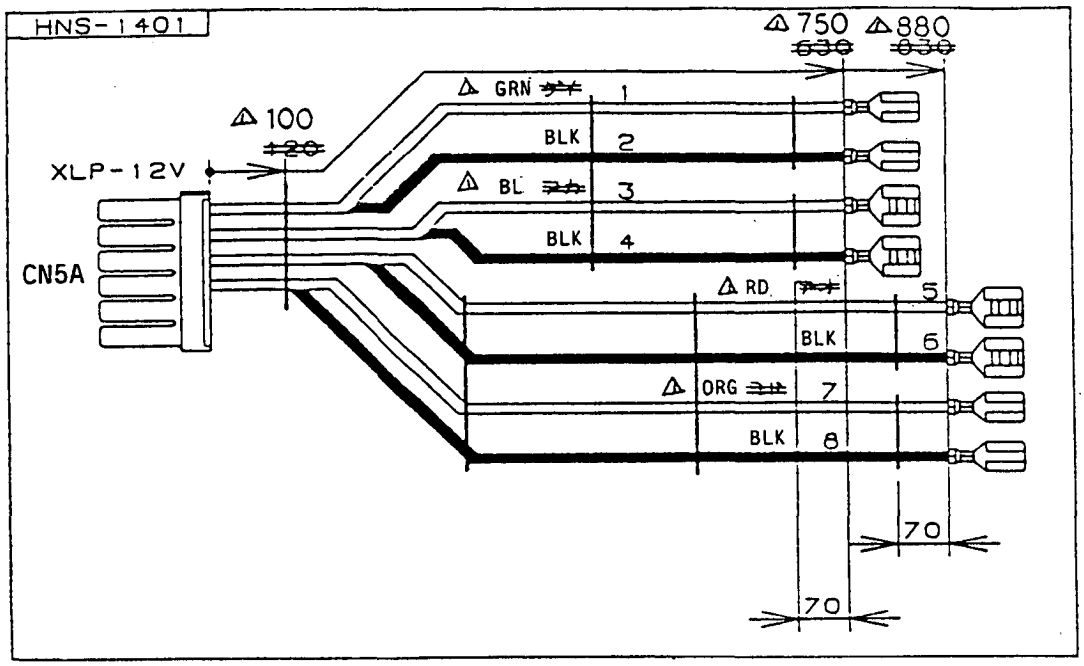

HNS-1394
1310
~~1290~~
WH 1
1
EHR-5
CN9A
CN9B
PHR-5 BLK 5
~~BS25-5~~
5

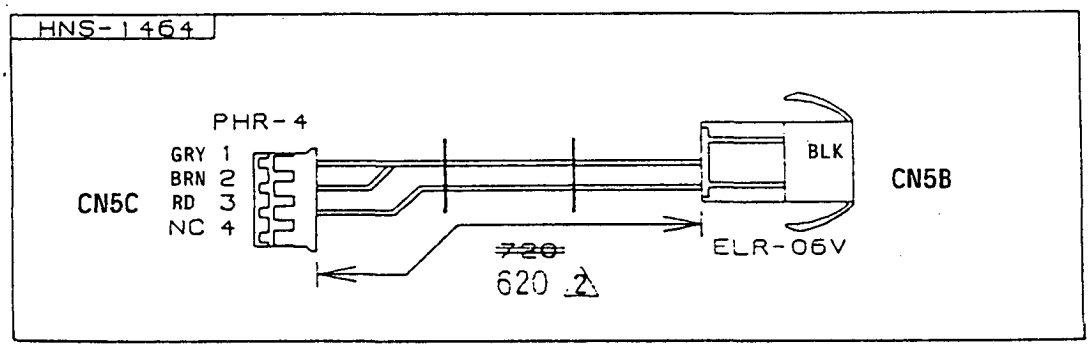

HNS-1395
1110
~~1260~~
BL 1
2
RD
9
1
EHR-9
CN10A
CN10B
PHR-9
~~BS25-9~~
9

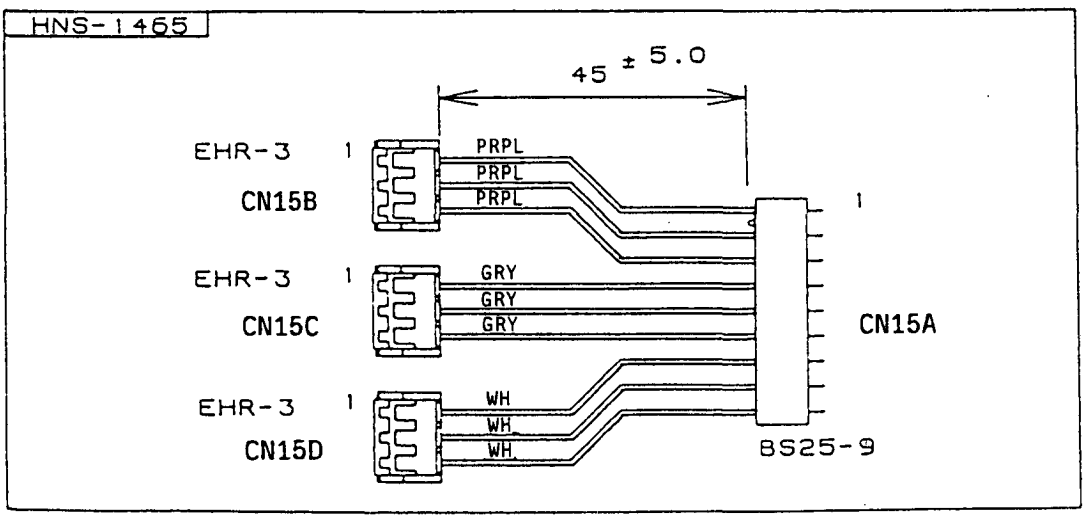

HNS-1396
1470
~~1620~~
PRPL 1
2
RD
10
1
EHR-10
CN11A
CN11B
PHR-10
~~BS25-10~~
10

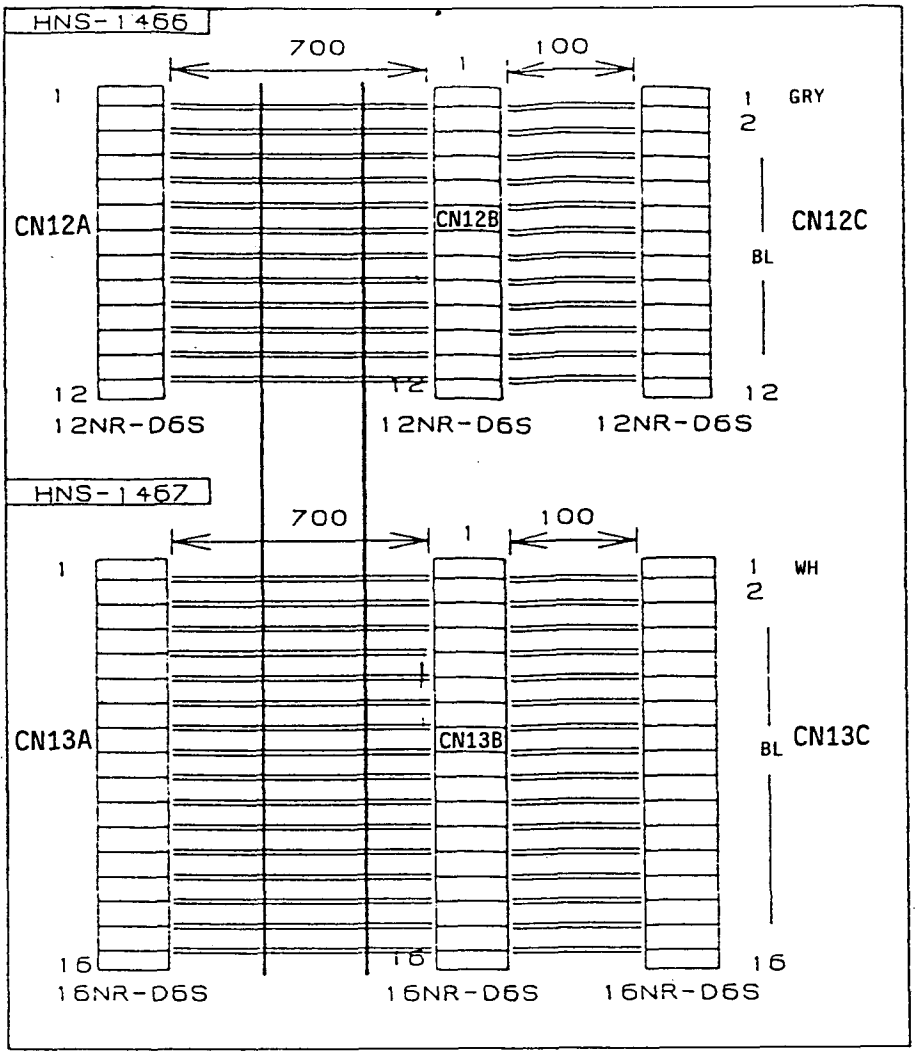

HNS-1397
1600
1650
BRN
1
2
CN14A
ORG
PHR-14
14
1
EHR-14
CN14B
14

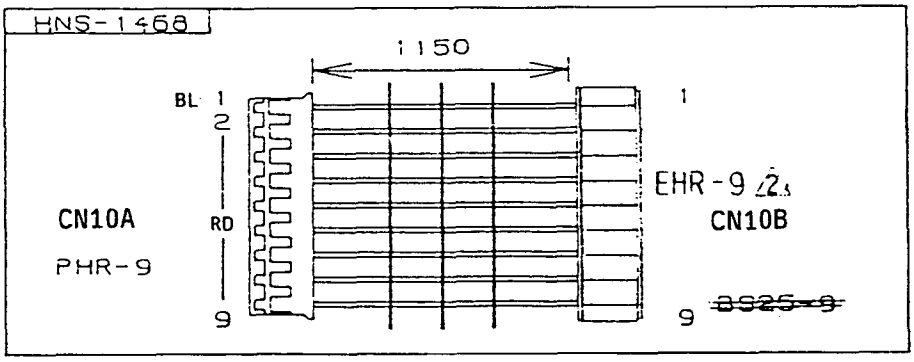

HNS-1398
900
1
100
1
CN12A
12
12NR-D6S
CN12B
12
12NR-D6S
1
GRY
2
CN12C
RD
12
12NR-D6S
HNS-1399
900
1
100
1
CN13A
16
16NR-D6S
CN13B
16
16NR-D6S
1
WH
2
RD
CN13C
16
16NR-D6S

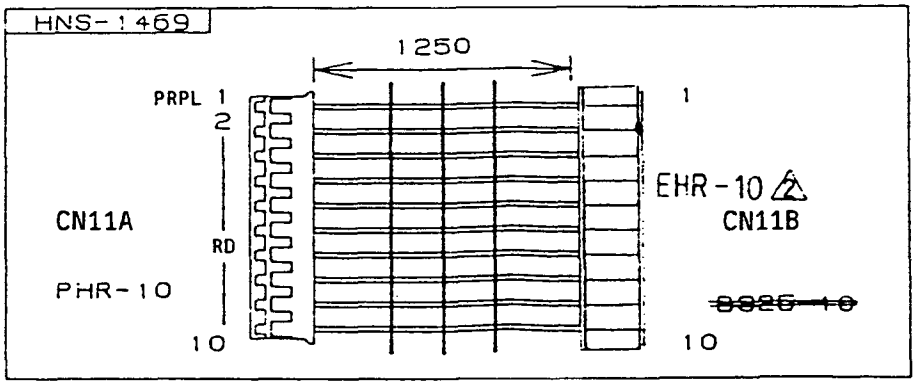

HNS-1401
750
880
100
XLP-12V
CN5A
GRN
BLK
BL
BLK
RD
BLK
ORG
BLK
1
2
3
4
5
6
7
8
70
70


HNS-1464
PHR-4
GRY 1
BRN 2
RD 3
NC 4
CN5C
BLK
CN5B
ELR-06V
620


HNS-1465
45 ± 5.0
EHR-3
CN15B
PRPL
PRPL
PRPL
EHR-3
CN15C
GRY
GRY
GRY
EHR-3
CN15D
WH
WH
WH
CN15A
BS25-9


HNS-1466
700
100
1
GRY
2
CN12A
CN12B
CN12C
BL
12
12NR-D6S
12NR-D6S
12NR-D6S
HNS-1467
700
100
WH
CN13A
CN13B
CN13C
16
16NR-D6S
16NR-D6S
16NR-D6S


HNS-1468
1150
BL
RD
CN10A
PHR-9
EHR-9
CN10B
9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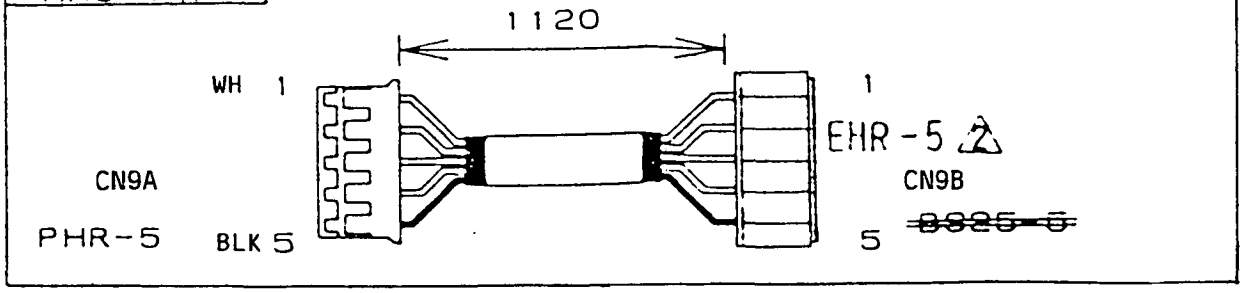
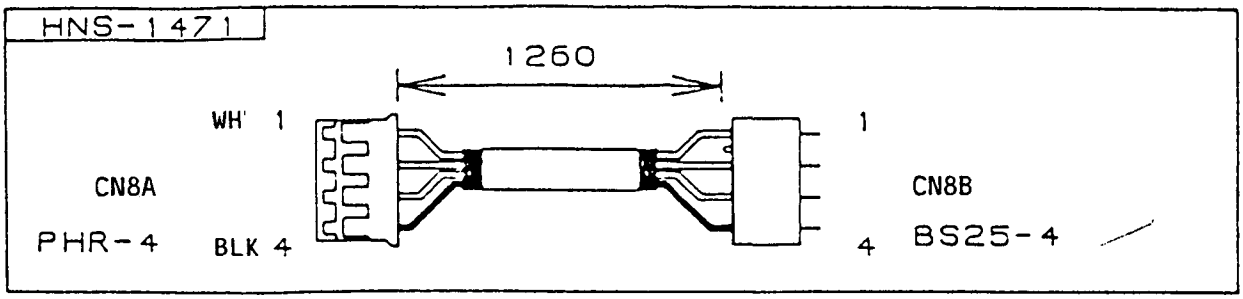
1250
PRPL
RD
CN11A
PHR-10
EHR-10
CN11B
10

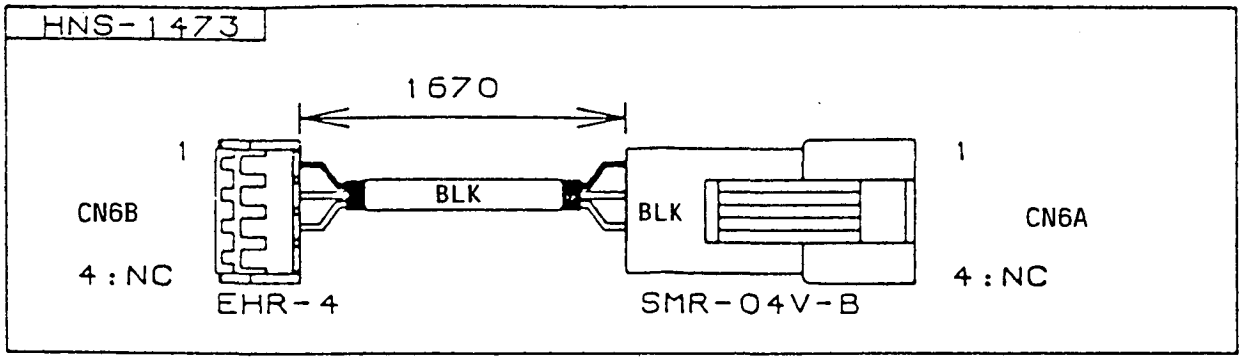
HNS-1470



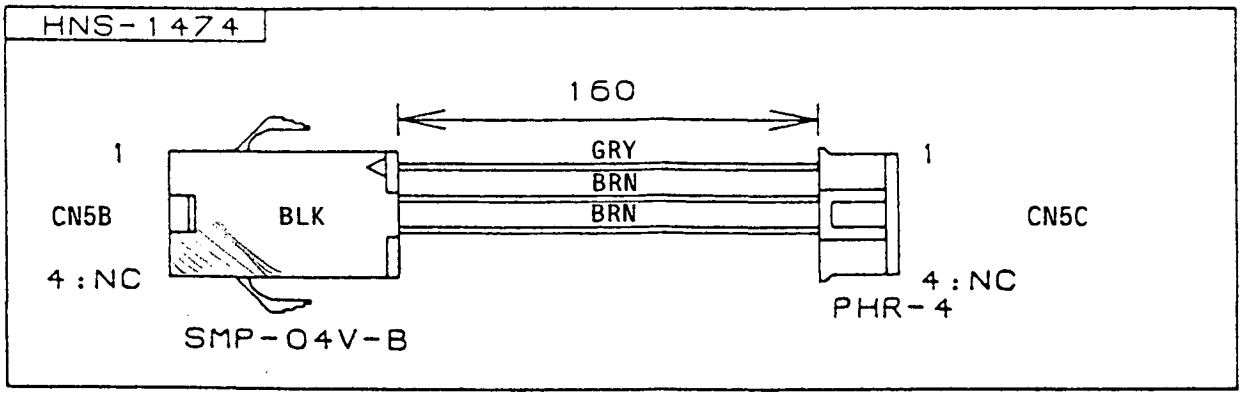
HNS-1471



HNS-1473



HNS-1474



FOR C-4000

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q' TY
	P. C. BOARDS			
001139602	KLM-1396		(C-4000)	1
001140300	KLM-1403		(C-4000/5500/30)	1
001141100	KLM-1411/12		(C-4000)	1
	KEY CONTACT BOARDS			
002079630	VC79630 (CENTER)			1
002079650	VC79650 (LOW)			1
002079660	VC79660 (HIGH)			1
	BLOCK RESISTORS			
135004510	RKC1/8B4J 10K	1396		2
135008510	RKC1/8B8J 10K	1396		1
135012510	RKC1/8B12J 10K	1396		1
	EMI FILTERS			
219050100	DSS310-55D223S	1396		3
219050900	NFV610-655 T2A 506	1396		1
	BLOCK CAPACITORS			
248015311	50V 100PF x 8	1396		6
248015312	50V 100PF x 6	1396		3
248015313	50V 100PF x 4	1396		2
	PPC			
264003418	100V 1800PF	1396		4
	TRANSISTORS			
301001300	2SB965 Q/P	1403		2
303001400	2SD1288 Q/P	1403		2
303001500	2SD414 Q/P	1403		2
304000020	2SA1175 TK	1403		1
304000070	2SA812-T1	1396	CHIP PART	1
304020020	2SC2785 TK	1403		2
304020110	BN1A4M-T	1411-2		3
304020150	2SC1623-T1B	1396	CHIP PART	2
304020200	2SC3326A-TE85L	1396	CHIP PART	4
304030130	FA1A4M-T1B	1396	CHIP PART	6

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q' TY
304030140	FN1A4M-T1B	1396	CHIP PART	1
	FET			
304060070	2SK433-T12-C	1396	CHIP PART	2
	BRIDGE DIODES			
310011100	KBP02ML6127	1403		1
310011200	KBU4DL6158	1403		2
	DIODES			
310002100	SR1M-2	1403		3
314000300	1S-2473 T-77	1411-2		8
314001300	1SS-133 T-77	1403		1
314001400	RLS-73 TE-11	1396	CHIP PART	7
	ZENER DIODE			
314025100	RD5.1LB1-T1	1396	CHIP PART	2
	ICs			
320001071	UPD74HCİ38C	1411-2	SOP	1
320001138	UPD27C1000AD-15	1396		1
320001180	UPC1270H	1403		2
320001210	UPD70320GJ-8-5BG	1396		1
320001242	UPC4570HA	1403	SOP	1
320001248	UPD23C4001EGW-311	1396	SOP	1
320001249	UPD23C4001EGW-312	1396	SOP	1
320001250	UPD23C4001EGW-313	1396	SOP	1
320001257	UPD65012GF-A15-3B8	1396		1
320009057	NJM7805FA	1403		1
320009078	NJM78M12FA	1403		1
320009079	NJM79M12FA	1403		1
320011121	M37450M4-233FP	1396		1
320012084	MB87726PF	1396		1
320013018	LH5164LN	1396		1
320036007	PCM61P	1396		1
324001006	UPD74HCU04GS-E2	1396	SOP	2
324001007	UPD74HC139GS-E2	1396	SOP	1
324001015	UPC4570G2-E2	1396	SOP	1
324001016	UPC4574G2-E2	1396	SOP	1
324004001	HD14053BFPER	1396	SOP	2

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
324009002	NJM5532M-T1	1396	SOP	2
324011004	M5216FP-73A	1396	SOP	1
324011007	M51951BML-300	1396	SOP	1
	PHOTO COUPLER			
330001400	PC-910K	1396		1
	CRYSTAL			
335005500	HC-49/U 32MHz	1396		1
	SEMI FIXED VR			
350002210	RH0615C 1K	1403		2
354003410	RH03A3A 100K	1396	CHIP PART	2
	SLIDE VR			
365008100	10KA x 2	1411-2		1
	POWER SW.			
375010400	SDDGA1103A TV-5	M.PRT		1
	TACT SW.			
375010600	SKHJGS	1411-2		8
	POWER TRANSFORMER			
400012100	TC-035	M.PRT		1
	COIL			
402002200	4312 020 36642	1403		2
	FERRITE BEADS			
402002700	BL02RN1-R62	1403		3
402003600	BL03RN2-R62	1396		20
	SB COIL			
402003900	SBT-0260	1396		13

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
	SPEAKERS			
410002500	160FW65-44 (LARGE)	M.PRT		2
410002600	57FT 102-8 (SMALL)	M.PRT		2
	KEYBOARD (ASSY)			
420003801	AE-88	M.PRT		1
	KEYs			
422006500	C	M.PRT		---
422006501	D	M.PRT		---
422006502	E	M.PRT		---
422006503	F	M.PRT		---
422006504	G	M.PRT		---
422006505	A	M.PRT		---
422006506	B	M.PRT		---
422006507	LOW-A	M.PRT		---
422006508	HI-C	M.PRT		---
422006509	BLK	M.PRT		---
	KEY SPRING			
422006510	VC79510	M.PRT		---
	ISOLATION SPACER (FOR KEY CONTACT)			
422006802	FOR AE-88	M.PRT		---
	KEY CONTACT RUBBER			
422006806	FOR AE-88	M.PRT		---
	PHONE JACK			
454005600	YKB21-5006	1411-2		1
	PIN JACK			
454006500	JPJ0730-01-500	1396		1
	DIN JACK			
454007700	VF64730	1396		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
		FUSES		
464002300	125V 2A SB2	M.PRT	100JP	1
			117EX	1
			117CN	1
			117US	1
464061801	250V T630MA	M.PRT	240AU	1
			240GE	1
			220SE	1
			220GE	1
			240UK	1
			220FR	1
			220SC	1
			220WG	1
			240AF	1
		CONNECTORS		
471031200	B12B-XHA	1396		1
471031600	B16B-XHA	1396		1
471050201	B2P3-VH	1403		2
471050800	B8P-VH	1403		1
471051200	B12P-XL	1403		1
471060300	B3B-EH	1403		1
471060500	B5B-EH	1411		1
471060900	B9B-EH	1411		1
471061000	B10B-EH	1403		1
471061300	B13B-EH	1396		1
471070200	B2B-PH	1396		1
471070400	B4B-PH	1396		2
471070500	B5B-PH	1396		1
471070900	B9B-PH	1396		1
471071000	B10B-PH	1396		1
474015000	WF-21 1-102NA (2P)	1403		1
474015100	WF-22 1-103NA (3P)	1403		1
		HARNESSES		
475001389	HNS-1389	M.PRT		1
475001392	HNS-1392	M.PRT		1
475001401	HNS-1401	M.PRT		1
475001466	HNS-1466	M.PRT		1
475001467	HNS-1467	M.PRT		1
475001468	HNS-1468 BOARD IN	1411-2		1
475001469	HNS-1469 BOARD IN	1411-2		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
475001470	HNS-1470 BOARD IN	1411-2		1
475001471	HNS-1471 BOARD IN	1411-2		1
475001474	HNS-1474	M.PRT		1
		IC SOCKET		
480001324	DICF-32CS-E 32P	1396		1
		FUSE HOLDER		
515002300	S-N5057 #01	1403		2
		LITHIC BATTERY		
520001700	CR2032	1396		1
		DATA LINE FILTER		
525000500	0443-164251	M.PRT		1
		HEAT SINK		
560006300		M.PRT		1
		RADIATION SHEETS		
565000900	FB-20 58 x 21	M.PRT		2
565001000	FB-20 52 x 17	M.PRT		1
		SLIDE VR KNOB		
620018100		M.PRT		1
		POWER SW. KNOB		
620018200		M.PRT		1
		TACT SW. KNOBS		
620018307	NO.7	M.PRT		1
620022600	NO.8	M.PRT		1
		MUSIC STAND PLATE		
630013500		M.PRT		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
SPEAKER NETS				
630013900	LARGE	M. PRT		2
630014000	SMALL	M. PRT		2
METAL FITTING OF SW				
640082500		M. PRT		1
FRONT BAR				
640085600		M. PRT		1
SIDE CHASSISES				
640085700	L	M. PRT		1
640085701	R	M. PRT		1
TOP PLATE				
640086500		M. PRT		1
MUSIC STAND PIN				
640087500		M. PRT		2
REAR PANEL SUPPORTER				
640088600		M. PRT		2
PLATE FOR CSA				
640090500		M. PRT	117CN	4
SPACER FOR MUSIC STAND				
640099400		M. PRT		2
METAL FITTING OF HEAT SINK				
641013800		M. PRT		1
SHIELD CHASSIS				
641013900		M. PRT		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
HINGE				
641015000		M. PRT		4
HEAT SINK ANGLES				
641015300	L	M. PRT		1
641015301	R	M. PRT		1
FRONT PANEL				
641016100		M. PRT		1
REAR PANEL				
641016300		M. PRT		1
BUSHING PLATE				
641016600		M. PRT		1
BOTTOM PLATE				
645013500		M. PRT		1
SLIDE VR FRAME				
646024900		M. PRT		1
SIDE PLATES				
646025000	L	M. PRT		1
646025001	R	M. PRT		1
MUSIC STAND HOLDER				
646025300		M. PRT		2
MUSIC STAND BOTTOM PLATE				
646025400		M. PRT		1
BATTERY HOLDER				
649007400		M. PRT		1

FOR C-5500

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
	P. C. BOARDS			
001082500	KLM-825		(C-5500)	1
001139600	KLM-1396		(C-5500/30)	1
001140300	KLM-1403		(C-4000/5500/30)	1
001141101	KLM-1411/12		(C-5500/40)	1
	KEY CONTACT BOARDS			
002079630	VC79630 (CENTER)			1
002079650	VC79650 (LOW)			1
002079660	VC79660 (HIGH)			1
	BLOCK RESISTORS			
135004510	RKC1/8B4J 10K	1396		2
135008510	RKC1/8B8J 10K	1396		1
135012510	RKC1/8B12J 10K	1396		1
	EMI FILTERS			
219050100	DSS310-55D223S	1396		3
219050900	NFV610-655 T2A 506	1396		1
	BLOCK CAPACITORS			
248015311	50V 100PF x 8	1396		6
248015312	50V 100PF x 6	1396		3
248015313	50V 100PF x 4	1396		2
	PPC			
264003418	100V 1800PF	1396		4
	TRANSISTORS			
301001300	2SB965 Q/P	1403		2
303001400	2SD1288 Q/P	1403		2
303001500	2SD414 Q/P	1403		2
304000020	2SA1175 TK	1403		1
304000070	2SA812-T1	1396	CHIP PART	1
304020020	2SC2785 TK	1403		2
304020110	BN1A4M-T	1411-2		1
304020150	2SC1623-T1B	1396	CHIP PART	2
304020200	2SC3326A-TE85L	1396	CHIP PART	4

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
304030130	FA1A4M-T1B	1396	CHIP PART	6
304030140	FN1A4M-T1B	1396	CHIP PART	1
	FET			
304060070	2SK433-T12-C	1396	CHIP PART	2
	BRIDGE DIODES			
310011100	KBP02ML6127	1403		1
310011200	KBU4DL6158	1403		2
	DIODES			
310002100	SR1M-2	1403		3
314000300	1S-2473 T-77	1411-2		11
314001300	1SS-133 T-77	1403		1
314001400	RLS-73 TE-11	1396	CHIP PART	7
	ZENER DIODE			
314025100	RD5.1LB1-T1	1396	CHIP PART	2
	LED			
312003900	SLB-26VR3F (RED)	825		1
	ICs			
320001071	UPD74HC138C	1411-2	SOP	1
320001138	UPD27C1000AD-15	1396		1
320001180	UPC1270H	1403		2
320001210	UPD70320GJ-8-5BG	1396		1
320001244	UPD65013GF-C23-3B8	1396		1
320001242	UPC4570HA	1403	SOP	1
320001248	UPD23C4001EGW-311	1396	SOP	1
320001249	UPD23C4001EGW-312	1396	SOP	1
320001250	UPD23C4001EGW-313	1396	SOP	1
320001256	UPD6380GC (52QFP)	1396		1
320009057	NJM7805FA	1403		1
320009078	NJM78M12FA	1403		1
320009079	NJM79M12FA	1403		1
320011113	M5M4464AL-10 (ZIP)	1396		1
320011121	M37450M4-233FP	1396		1
320012084	MB87726PF	1396		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
320013018	LH5164LN	1396		1
320036007	PCM61P	1396		1
324001006	UPD74HCU04GS-E2	1396	SOP	2
324001007	UPD74HC139GS-E2	1396	SOP	1
324001015	UPC4570G2-E2	1396	SOP	1
324001016	UPC4574G2-E2	1396	SOP	1
324004001	HD14053BFPER	1396	SOP	2
324009002	NJM5532M-T1	1396	SOP	2
324011004	M5216FP-73A	1396	SOP	1
324011007	M51951BML-300	1396	SOP	1
	PHOTO COUPLER			
330001400	PC-910K	1396		1
	CRYSTALS			
335005500	HC-49/U 32MHz	1396		1
335006500	AT-49 24.576MHz	1396		1
	SEMI FIXED VRs			
350002210	RH0615C 1K	1403		2
350003410	RH03A3A 100K	1396	CHIP PART	2
	SLIDE VR			
365008100	10KA x 2	1411-2		1
	POWER SW.			
375010400	SDDGA1103A TV-5	M.PRT		1
	TACT SW.			
375010600	SKHJGS	1411-2		11
	POWER TRANSFORMER			
400012100	TC-035	M.PRT		1
	COIL			
402002200	4312 020 36642	1403		2

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
	FERRITE BEADS,			
402002700	BL02RN1-R62	1403		3
402003600	BL03RN2-R62	1396		20
	SPEAKERS			
410002500	160FW65-44 (LARGE)	M.PRT		2
410002600	57FT 102-8 (SMALL)	M.PRT		2
	KEYBOARD (ASSY)			
420003801	AE-88	M.PRT		1
	KEYs			
422006500	C	M.PRT		---
422006501	D	M.PRT		---
422006502	E	M.PRT		---
422006503	F	M.PRT		---
422006504	G	M.PRT		---
422006505	A	M.PRT		---
422006506	B	M.PRT		---
422006507	LOW-A	M.PRT		---
422006508	HI-C	M.PRT		---
422006509	BLK	M.PRT		---
	KEY SPRING			
422006510	VC79510	M.PRT		---
	ISOLATION SPACER (FOR KEY CONTACT)			
422006802	FOR AE-88	M.PRT		---
	KEY CONTACT RUBBER			
422006806	FOR AE-88	M.PRT		---
	PHONE JACK			
454005600	YKB21-5006	1411-2		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
		PIN JACK		
454006500	JPJ0730-01-500	1396		1
		DIN JACK		
454007700	VF64730	1396		1
		FUSES		
464002300	125V 2A SB2	M.PRT	100JP	1
			117EX	1
			117CN	1
			117US	1
464061801	250V T630MA	M.PRT	240AU	1
			240GE	1
			220SE	1
			220GE	1
			240UK	1
			220FR	1
			220SC	1
			220WG	1
			240AF	1
		CONNECTORS		
471031200	B12B-XHA	1396		1
471031600	B16B-XHA	1396		1
471050201	B2P3-VH	1403		2
471050800	B8P-VH	1403		1
471051200	B12P-XL	1403		1
471060300	B3B-EH	1403		1
471060500	B5B-EH	1411		1
471060900	B9B-EH	1411		1
471061000	B10B-EH	1403		1
471061300	B13B-EH	1396		1
471070200	B2B-PH	1396		1
471070400	B4B-PH	1396		2
471070500	B5B-PH	1396		1
471070900	B9B-PH	1396		1
471071000	B10B-PH	1396		1
474015000	WF-21 1-102NA (2P)	1403		1
474015100	WF-22 1-103NA (3P)	1403		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
		HARNESSES		
475001389	HNS-1389	M.PRT		1
475001392	HNS-1392	M.PRT		1
475001401	HNS-1401	M.PRT		1
475001466	HNS-1466	M.PRT		1
475001467	HNS-1467	M.PRT		1
475001468	HNS-1468 BOARD IN	1411-2		1
475001469	HNS-1469 BOARD IN	1411-2		1
475001470	HNS-1470 BOARD IN	1411-2		1
475001471	HNS-1471 BOARD IN	1411-2		1
475001474	HNS-1474	M.PRT		1
		IC SOCKET		
480001324	DICF-32CS-E 32P	1396		1
		FUSE HOLDER		
515002300	S-N5057 #01	1403		2
		LITHIC BATTERY		
520001700	CR2032	1396		1
		HEAT SINK		
560006300		M.PRT		1
		RADIATION SHEETS		
565000900	FB-20 58 x 21	1403		2
565001000	FB-20 52 x 17	1403		1
		LED SPACER		
575013600	TYPE X 4.3mm	825		1
		SLIDE VR KNOB		
620018100		M.PRT		1
		POWER SW. KNOB		
620018200		M.PRT		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
TACT SW. KNOBS				
620018304	NO. 4	M. PRT		1
620018307	NO. 7	M. PRT		1
620022600	NO. 8	M. PRT		1
KEY COVER				
630006100		M. PRT		1
SPEAKER NETS				
630013900	LARGE	M. PRT		2
630014000	SMALL	M. PRT		2
METAL FITTING OF SW				
640082500		M. PRT		1
FRONT BAR				
640085600		M. PRT		1
SIDE CHASSISES				
640085700	L	M. PRT		1
640085701	R	M. PRT		1
TOP PLATE				
640086500		M. PRT		1
REAR PANEL SUPPORTER				
640088600		M. PRT		2
KEY COVER STOPPER				
640089400		M. PRT		2
KEY COVER PANELS				
640090000	1	M. PRT		1
640090100	2	M. PRT		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
MUSIC STAND BOTTOM PLATE				
640090200		M. PRT		1
PLATE FOR CSA				
640090500		M. PRT	117CN	4
METAL FITTING OF HEAT SINK				
641013800		M. PRT		1
SHIELD CHASSIS				
641013900		M. PRT		1
HINGE				
641015000		M. PRT		4
HEAT SINK ANGLES				
641015300	L	M. PRT		1
641015301	R	M. PRT		1
FRONT PANEL				
641016200		M. PRT		1
REAR PANEL				
641016300		M. PRT		1
BUSHING PLATE				
641016600		M. PRT		1
BOTTOM PLATE				
645013500		M. PRT		1
SLIDE VR FRAME				
646024900		M. PRT		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
SIDE PLATES				
646025000	L	M. PRT		1
646025001	R	M. PRT		1
KEY COVER FRAME				
646026400		M. PRT		2
MUSIC STAND PINS				
646026700	R	M. PRT		1
646026701	L	M. PRT		1
KEY COVER HINGE UNITS				
647004400	R	M. PRT		1
647004401	L	M. PRT		1
BATTERY HOLDER				
649007400		M. PRT		1

FOR C-30

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
P. C. BOARDS				
001139600	KLM-1396		(C-5500/30)	1
001139700	KLM-1397		(C-30)	1
001139800	KLM-1398		(C-30/40/50)	1
001140300	KLM-1403		(C-4000/5500/30)	1
KEY CONTACT BOARDS				
002079630	VC79630 (CENTER)			1
002079650	VC79650 (LOW)			1
002079660	VC79660 (HIGH)			1
BLOCK RESISTORS				
135004510	RKC1/8B4J 10K	1396		2
135008510	RKC1/8B8J 10K	1396		1
135012510	RKC1/8B12J 10K	1396		1
EMI FILTERS				
219050100	DSS310-55D223S	1396		3
219050900	NFV610-655 T2A 506	1396		1
BLOCK CAPACITORS				
248015311	50V 100PF x 8	1396		6
248015312	50V 100PF x 6	1396		3
248015313	50V 100PF x 4	1396		2
PPC				
264003418	100V 1800PF	1396		4
TRANSISTORS				
301001300	2SB965 Q/P	1403		2
303001400	2SD1288 Q/P	1403		2
303001500	2SD414 Q/P	1403		2
304000020	2SA1175 TK	1403		1
304000070	2SA812-T1	1396	CHIP PART	1
304020020	2SC2785 TK	1403		2
304020110	BN1A4M-T	1397		4
304020150	2SC1623-T1B	1396	CHIP PART	2
304020200	2SC3326A-TE85L	1396	CHIP PART	4

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
304030130	FA1A4M-T1B	1396	CHIP PART	6
304030140	FN1A4M-T1B	1396	CHIP PART	1
	FET			
304060070	2SK433-T12-C	1396	CHIP PART	2
	BRIDGE DIODES			
310011100	KBP02ML6127	1403		1
310011200	KBU4DL6158	1403		2
	DIODES			
310002100	SR1M-2	1403		3
314001300	1SS-133 T-77	1397		16
		1403		1
314001400	RLS-73 TE-11	1396	CHIP PART	7
	ZENER DIODE			
314025100	RD5.1LB1-T1	1396	CHIP PART	2
	ICs			
320001071	UPD74HC138C	1397	SOP	1
320001138	UPD27C1000AD-15	1396		1
320001180	UPC1270H	1403		2
320001210	UPD70320GJ-8-5BG	1396		1
320001242	UPC4570HA	1403	SOP	1
320001244	UPD65013GF-C23-3B8	1396		1
320001248	UPD23C4001EGW-311	1396	SOP	1
320001249	UPD23C4001EGW-312	1396	SOP	1
320001250	UPD23C4001EGW-313	1396	SOP	1
320001256	UPD6380GC (52QFP)	1396		1
320009057	NJM7805FA	1403		1
320009078	NJM78M12FA	1403		1
320009079	NJM79M12FA	1403		1
320011113	M5M4464AL-10 (ZIP)	1396		1
320011121	M37450M4-233FP	1396		1
320012084	MB87726PF	1396		1
320013018	LH5164LN	1396		1
320036007	PCM61P	1396		1
324001006	UPD74HCU04GS-E2	1396	SOP	2
324001007	UPD74HC139GS-E2	1396	SOP	1

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
324001015	UPC4570G2-E2	1396	SOP	1
324001016	UPC4574G2-E2	1396	SOP	1
324004001	HD14053BFPER	1396	SOP	2
324009002	NJM5532M-T1	1396	SOP	2
324011004	M5216FP-73A	1396	SOP	1
324011007	M51951BML-300	1396	SOP	1
	PHOTO COUPLER			
330001400	PC-910K	1396		1
	CRYSTALS			
335005500	HC-49/U 32MHz	1396		1
335006500	AT-49 24.576MHz	1396		1
	SEMI FIXED VRs			
350002210	RH0615C 1K	1403		2
350003410	RH03A3A 100K	1396	CHIP PART	2
	SLIDE VR			
365008100	10KA x 2	1397		1
	POWER SW.			
375010400	SDDGA1103A TV-5	M.PRT		1
	TACT SW.			
375010600	SKHJGS	1397		16
	POWER TRANSFORMER			
400012100	TC-035	M.PRT		1
	COIL			
402002200	4312 020 36642	1403		2
	FERRITE BEADS			
402002700	BL02RN1-R62	1403		3
402003600	BL03RN2-R62	1396		20

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
	SB COIL			
402003900	SBT-0260	1396		13
	SPEAKERS			
410002500	160FW65-44 (LARGE)	M.PRT		2
410002600	57FT 102-8 (SMALL)	M.PRT		2
	KEYBOARD (ASSY)			
420003801	AE-88	M.PRT		1
	KEYs			
422006500	C	M.PRT		---
422006501	D	M.PRT		---
422006502	E	M.PRT		---
422006503	F	M.PRT		---
422006504	G	M.PRT		---
422006505	A	M.PRT		---
422006506	B	M.PRT		---
422006507	LOW-A	M.PRT		---
422006508	HI-C	M.PRT		---
422006509	BLK	M.PRT		---
	KEY SPRING			
422006510	VC79510	M.PRT		---
	ISOLATION SPACER (FOR KEY CONTACT)			
422006802	FOR AE-88	M.PRT		---
	KEY CONTACT RUBBER			
422006806	FOR AE-88	M.PRT		---
	PHONE JACK			
454005600	YKB21-5006	1398		1
	PIN JACK			
454006500	JPJ0730-01-500	1396		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
	DIN JACK			
454007700	VF64730	1396		1
	FUSES			
464002300	125V 2A SB2	M.PRT	100JP	1
			117EX	1
			117CN	1
			117US	1
464061801	250V T630MA	M.PRT	240AU	1
			240GE	1
			220SE	1
			220GE	1
			240UK	1
			220FR	1
			220SC	1
			220WG	1
			240AF	1
	CONNECTORS			
471031200	B12B-XHA	1396		1
471031600	B16B-XHA	1396		1
471050201	B2P3-VH	1403		2
471050800	B8P-VH	1403		1
471051200	B12P-XL	1403		1
471060300	B3B-EH	1403		1
471060500	B5B-EH	1397		1
471060900	B9B-EH	1397		1
471061000	B10B-EH	1403		1
471061300	B13B-EH	1396		1
471070200	B2B-PH	1396		1
471070400	B4B-PH	1396		2
471070500	B5B-PH	1396		1
471070900	B9B-PH	1396		1
471071000	B10B-PH	1396		1
474015000	WF-21 1-102NA (2P)	1403		1
474015100	WF-22 1-103NA (3P)	1403		1
	HARNESSES			
475001389	HNS-1389	M.PRT		1
475001392	HNS-1392	M.PRT		1
475001393	HNS-1393 BOARD IN	1398		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
475001394	HNS-1394 BOARD IN	1397		1
475001395	HNS-1395 BOARD IN	1397		1
475001396	HNS-1396 BOARD IN	1397		1
475001401	HNS-1401	M.PRT		1
475001464	HNS-1464	M.PRT		1
475001466	HNS-1466	M.PRT		1
475001467	HNS-1467	M.PRT		1
IC SOCKET				
480001324	DICF-32CS-E 32P	1396		1
FUSE HOLDER				
515002300	S-N5057 #01	1403		2
LITHIC BATTERY				
520001700	CR2032	1396		1
DATA LINE FILTER				
525000500	0443-164251	M.PRT		1
HEAT SINK				
560006300		M.PRT		1
RADIATION SHEETS				
565000900	FB-20 58 x 21	1403		2
565001000	FB-20 52 x 17	1403		1
SLIDE VR KNOB				
620022500		M.PRT		1
POWER SW. KNOB				
620002160	BLK	M.PRT		1
TACT SW. KNOB				
620022300		M.PRT		16

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
HINGE CAP				
629010907		M.PRT		2
MUSIC STAND PLATE				
630012700		M.PRT		1
KEY COVER PLATES				
630013300	L	M.PRT		1
630013400	R	M.PRT		1
SHIELD SHEET				
630013600		M.PRT		1
SPEAKER NETS				
630013900	LARGE	M.PRT		2
630014000	SMALL	M.PRT		2
CONNECTOR PLATE				
640098400	NO.2	M.PRT		1
FRONT PANEL				
641012100	NO.1	M.PRT		1
SIDE CHASSISES				
641012400	L	M.PRT		1
641012401	R	M.PRT		1
KEY BLOCK CHASSISES				
641012600	L	M.PRT		1
641012601	R	M.PRT		1
METAL FITTING OF STAND				
641013000	L	M.PRT		1
641013001	R	M.PRT		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
REAR ANGLES				
641013200	L	M.PRT		1
641013201	R	M.PRT		1
METAL FITTING OF HEAT SINK				
641013800		1403		1
SHIELD CHASSIS				
641013900		M.PRT		1
FRONT GRILL				
641014100	NO.1	M.PRT		1
TOP PLATE				
641014400	NO.1	M.PRT		1
FRONT BAR				
641014800		M.PRT		1
MUSIC STAND HINGE				
641014900		M.PRT		2
HINGE				
641015000		M.PRT		4
HEAT SINK ANGLES				
641015300	L	M.PRT		1
641015301	R	M.PRT		1
BUSHING PLATE				
641016600		M.PRT		1
BOTTOM PLATE				
645013100		M.PRT		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
SIDE PLATES				
646034600	L	M.PRT		1
646034601	R	M.PRT		1
GUIDES				
646034900	L	M.PRT		1
646034901	R	M.PRT		1
KEY BLOCKS				
646035000	L	M.PRT		1
646035001	R	M.PRT		1
MUSIC STAND BOTTOM PLATE				
646035700		M.PRT		1
MUSIC STOPPER				
646036600	A	M.PRT		1
SLIDE VR FRAME				
646037100		M.PRT		1
BATTERY HOLDER				
649007400		1396		1

FOR C-40

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
	P. C. BOARDS			
001139601	KLM-1396		(FOR C-40)	1
001139701	KLM-1397		(FOR C-40)	1
001139800	KLM-1398		(FOR C-30/40/50)	1
001140301	KLM-1403		(FOR C-40)	1
	KEY CONTACT BOARDS			
002079630	VC79630 (CENTER)			1
002079650	VC79650 (LOW)			1
002079660	VC79660 (HIGH)			1
	BLOCK RESISTORS			
135004510	RKC1/8B4J 10K	1396		2
135008510	RKC1/8B8J 10K	1396		1
135012510	RKC1/8B12J 10K	1396		1
	EMI FILTERS			
219050100	DSS310-55D223S	1396		3
219050900	NFV610-655 T2A 506	1396		1
	BLOCK CAPACITORS			
248015311	50V 100PF x 8	1396		6
248015312	50V 100PF x 6	1396		3
248015313	50V 100PF x 4	1396		2
	PPC			
264003418	100V 1800PF	1396		4
	TRANSISTORS			
301001300	2SB965 Q/P	1403		2
303001400	2SD1288 Q/P	1403		2
303001500	2SD414 Q/P	1403		2
304000020	2SA1175 TK	1403		1
304000070	2SA812-TI	1396	CHIP PART	1
304020020	2SC2785 TK	1403		2
304020110	BN1A4M-T	1397		4
304020150	2SC1623-T1B	1396	CHIP PART	2
304020200	2SC3326A-TE85L	1396	CHIP PART	4

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
304030130	FA1A4M-T1B	1396	CHIP PART	6
304030140	FN1A4M-T1B	1396	CHIP PART	1
	FET			
304060070	2SK433-T12-C	1396	CHIP PART	2
	BRIDGE DIODES			
310011100	KBP02ML6127	1403		1
310011200	KBU4DL6158	1403		2
	DIODES			
310002100	SR1M-2	1403		3
314001300	1SS-133 T-77	1403		1
		1397		20
314001400	RLS-73 TE-11	1396	CHIP PART	7
	ZENER DIODE			
314025100	RD5.1LB1-T1	1396	CHIP PART	2
	ICs			
320001071	UPD74HC138C	1397	SOP	1
320001138	UPD27C1000AD-15	1396		1
320001180	UPC1270H	1403		2
320001210	UPD70320GJ-8-5BG	1396		1
320001242	UPC4570HA	1403	SOP	2
320001244	UPD65013GF-C23-3B8	1396		1
320001245	UPD23C2000GC-F46	1396		1
320001246	UPD23C2000GC-F47	1396		1
320001247	UPD23C2000GC-F48	1396		1
320001248	UPD23C4001EGW-311	1396	SOP	1
320001249	UPD23C4001EGW-312	1396	SOP	1
320001250	UPD23C4001EGW-313	1396	SOP	1
320001256	UPD6380GC (52QFP)	1396		1
320009057	NJM7805FA	1403		1
320009078	NJM78M12FA	1403		1
320009079	NJM79M12FA	1403		1
320011113	M5M4464AL-10 (ZIP)	1396		1
320011121	M37450M4-233FP	1396		1
320012084	MB87726PF	1396		1
320013018	LH5164LN	1396		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
320036007	PCM61P	1396		1
324001006	UPD74HCU04GS-E2	1396	SOP	2
324001007	UPD74HC139GS-E2	1396	SOP	1
324001015	UPC4570G2-E2	1396	SOP	1
324001016	UPC4574G2-E2	1396	SOP	1
324004001	HD14053BFPER	1396	SOP	2
324009002	NJM5532M-T1	1396	SOP	2
324011004	M5216FP-73A	1396	SOP	1
324011007	M51951BML-300	1396	SOP	1
	PHOTO COUPLER			
330001400	PC-910K	1396		1
	CRYSTALS			
335005500	HC-49/U 32MHz	1396		1
335006500	AT-49 24.576MHz	1396		1
	SEMI FIXED VRs			
350002210	RH0615C 1K	1403		2
350003410	RH03A3A 100K	1396	CHIP PART	2
	SLIDE VR			
365008100	10KA x 2	1397		1
	POWER SW.			
375010400	SDDGA1103A TV-5	M.PRT		1
	TACT SW.			
375010600	SKHJGS	1397		20
	POWER TRANSFORMER			
400012200	TC-036	M.PRT		1
	COIL			
402002200	4312 020 36642	1403		2

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
	FERRITE BEADS			
402002700	BL02RN1-R62	1403		3
402003600	BL03RN2-R62	1396		20
	SB COIL			
402003900	SBT-0260	1396		13
	SPEAKERS			
410003200	FF102-94 (LARGE)	M.PRT		2
410003300	FT50-L5 (SMALL)	M.PRT		2
	KEYBOARD (ASSY)			
420003801	AE-88	M.PRT		1
	KEYs			
422006500	C	M.PRT		---
422006501	D	M.PRT		---
422006502	E	M.PRT		---
422006503	F	M.PRT		---
422006504	G	M.PRT		---
422006505	A	M.PRT		---
422006506	B	M.PRT		---
422006507	LOW-A	M.PRT		---
422006508	HI-C	M.PRT		---
422006509	BLK	M.PRT		---
	KEY SPRING			
422006510	VC79510	M.PRT		---
	ISOLATION SPACER (FOR KEY CONTACT)			
422006802	FOR AE-88	M.PRT		---
	KEY CONTACT RUBBER			
422006806	FOR AE-88	M.PRT		---

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
	PHONE JACK			
454005600	YKB21-5006	1398		1
	PIN JACK			
454006500	JPJ0730-01-500	1396		1
	DIN JACK			
454007700	VF64730	1396		1
	FUSES			
464002400	125V 2.5A SB2.5	M.PRT	100JP	1
			117EX	1
			117CN	1
			117US	1
464062001	250V T1.0MA	M.PRT	240AU	1
			240GE	1
			220SE	1
			220GE	1
			240UK	1
			220FR	1
			220SC	1
			220WG	1
			240AF	1
	CONNECTORS			
471031200	B12B-XHA	1396		1
471031600	B16B-XHA	1396		1
471050201	B2P3-VH	1403		2
471050800	B8P-VH	1403		1
471051200	B12P-XL	1403		1
471060300	B3B-EH	1403		1
471060500	B5B-EH	1397		1
471060900	B9B-EH	1397		1
471061000	B10B-EH	1403		1
471061300	B13B-EH	1396		1
471070200	B2B-PH	1396		1
471070400	B4B-PH	1396		2
471070500	B5B-PH	1396		1
471070900	B9B-PH	1396		1
471071000	B10B-PH	1396		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
474015000	WF-21 1-102NA (2P)	1403		1
474015100	WF-22 1-103NA (3P)	1403		1
	HARNESSES			
475001389	HNS-1389	M.PRT		1
475001390	HNS-1390	M.PRT.		1
475001392	HNS-1392	M.PRT		1
475001393	HNS-1393 BOARD IN	1398		1
475001394	HNS-1394 BOARD IN	1397		1
475001395	HNS-1395 BOARD IN	1397		1
475001396	HNS-1396 BOARD IN	1397		1
475001398	HNS-1398	M.PRT		1
475001399	HNS-1399	M.PRT		1
	IC SOCKET			
480001324	DICF-32CS-E 32P	1396		1
	FUSE HOLDER			
515002300	S-N5057 #01	1403		2
	LITHIC BATTERY			
520001700	CR2032	1396		1
	HEAT SINK			
560006400		M.PRT		1
	RADIATION SHEETS			
565000900	FB-20 58 x 21	1403		2
565001000	FB-20 52 x 17	1403		1
	SLIDE VR KNOB			
620022500		M.PRT		1
	POWER SW. KNOB			
620021600	BLK	M.PRT		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
TACT SW. KNOBS				
620022300		M. PRT		20
HINGE CAP				
629010907		M. PRT		2
MUSIC STAND PLATE				
630012700		M. PRT		1
KEY COVER				
630012800		M. PRT		1
SHIELD SHEET				
630013600		M. PRT		1
CONNECTOR PLATE				
640098400	NO. 2	M. PRT		1
FRONT PANEL				
641012101	NO. 2	M. PRT		1
KEY COVER PANELS				
641012200 641012300	A B	M. PRT M. PRT		1 1
KEY BLOCK CHASSISES				
641012600 641012601	L R	M. PRT M. PRT		1 1
POWER TRANSFORMER CASE				
641012700		M. PRT		1
METAL FITTINGS OF STAND				
641013000 641013001	L R	M. PRT M. PRT		1 1

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
METAL FITTING OF HEAT SINK				
641013800		1403		1
SHIELD CHASSIS				
641013900		M. PRT		1
REAR GRILL				
641014000		M. PRT		1
FRONT GRILL				
641014200	NO. 2	M. PRT		1
TOP PLATE				
641014500	NO. 2	M. PRT		1
FRONT BAR				
641014800		M. PRT		1
MUSIC STAND HINGE				
641014900		M. PRT		2
HINGE				
641015000		M. PRT		4
REAR ANGLES				
641015100 641015101	NO. 2 L NO. 2 R	M. PRT M. PRT		1 1
SPEAKER CHASSIS				
641015200		M. PRT		2
HEAT SINK ANGLES				
641015300 641015301	L R	M. PRT M. PRT		1 1

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
SHAFT ANGLE				
641015400		M. PRT		3
SIDE CHASSISES				
641015500	NO. 2 L	M. PRT		1
641015501	NO. 2 R	M. PRT		1
KEY COVER SHAFT				
641016500		M. PRT		1
BUSHING PLATE				
641016600		M. PRT		1
RADIATION COVER				
641016700		M. PRT		1
KEY COVER STOPPER				
641016800		M. PRT		1
BOTTOM PLATE				
645013200		M. PRT		1
SIDE PLATES				
646034600	L	M. PRT		1
646034601	R	M. PRT		1
GUIDES				
646034900	L	M. PRT		1
646034901	R	M. PRT		1
KEY BLOCKS				
646035000	L	M. PRT		1
646035001	R	M. PRT		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
SHAFT COLLAR				
646035300		M. PRT		3
MUSIC STAND BOTTOM PLATE				
646035700		M. PRT		1
RACKS				
646035800	L	M. PRT		1
646035801	R	M. PRT		1
GEAR				
646035900		M. PRT		2
KEY COVER SIDE ROLLER				
646036000		M. PRT		2
REFLECTORS				
646036400	NO. 1	M. PRT		2
646036500	NO. 2 L	M. PRT		1
646036501	NO. 2 R	M. PRT		1
MUSIC STOPPER				
646036600	A	M. PRT		1
SLIDE VR FRAME				
646037100		M. PRT		1
BATTERY HOLDER				
649007400		1396		1

FOR C-50

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
	P. C. BOARDS			
001139800	KLM-1398		(FOR C-30/40/50)	1
001139900	KLM-1399		(FOR C-50)	1
001140000	KLM-1400		(FOR C-50)	1
001140302	KLM-1403		(FOR C-50)	1
001140400	KLM-1404		(FOR C-50)	1
	KEY CONTACT BOARDS			
002079630	VC79630 (CENTER)			1
002079650	VC79650 (LOW)			1
002079660	VC79660 (HIGH)			1
	BLOCK RESISTORS			
135004510	RKC1/8B4J 10K	1399		1
135008510	RKC1/8B8J 10K	1399		2
135012510	RKC1/8B12J 10K	1399		1
	EMI FILTERS			
219050100	DSS310-55D223S	1399		3
219050900	NFV610-655 T2A 506	1399		1
	BLOCK CAPACITORS			
248015311	50V 100PF x 8	1399		6
248015312	50V 100PF x 6	1399		2
248015313	50V 100PF x 4	1399		2
	PPC			
264003418	100V 1800PF	1399		4
	TRANSISTORS			
301001300	2SB965 Q/P	1404		2
303001400	2SD1288 Q/P	1404		2
303001500	2SD414 Q/P	1404		2
304000020	2SA1175 TK	1403		1
304000070	2SA812-T1	1399	CHIP PART	1
304020020	2SC2785 TK	1403		2
304020110	BN1A4M-T	1400		4
304020150	2SC1623-T1B	1399	CHIP PART	2

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
304020200	2SC3326A-TE85L	1399	CHIP PART	4
304030130	FA1A4M-T1B	1399	CHIP PART	1
304030140	FN1A4M-T1B	1399	CHIP PART	1
	FET			
304060070	2SK433-T12-C	1399	CHIP PART	2
	BRIDGE DIODES			
310011100	KBP02ML6127	1403		1
310011200	KBU4DL6158	1403		2
	DIODES			
310002100	SR1M-2	1403		3
314001300	1SS-133 T-77	1400		28
		1403		1
314001400	RLS-73 TE-11	1399	CHIP PART	7
	LED			
312008100	VRPG3312X RED/GRN	1400		2
	ZENER DIODE			
314025100	RD5.1LB1-T1	1399	CHIP PART	2
	ICs			
320001071	UPD74HC138C	1400	SOP	1
320001138	UPD27C1000AD-15	1399		1
320001180	UPC1270H	1403		2
320001210	UPD70320GJ-8-5BG	1399		1
320001230	UPD43256AC-10L	1399		1
320001242	UPC4570HA	1403	SOP	2
320001244	UPD65013GF-C23-3B8	1399		1
320001248	UPD23C4001EGW-311	1399	SOP	1
320001249	UPD23C4001EGW-312	1399	SOP	1
320001250	UPD23C4001EGW-313	1399	SOP	1
320001251	UPD23C4001EGW-314	1399	SOP	1
320001252	UPD23C4001EGW-315	1399	SOP	1
320001253	UPD23C4001EGW-316	1399	SOP	1
320001256	UPD6380GC (52QFP)	1399		1
320001260	UPD65013GF-C63-3BA	1399		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
320009057	NJM7805FA	1404		1
320009078	NJM78M12FA	1404		1
320009079	NJM79M12FA	1404		1
320011113	M5M4464AL-10 (ZIP)	1399		1
320011121	M37450M4-233FP	1399		1
320011123	M66313FP (SOP)	1400		1
320012084	MB87726PF	1399		2
320036007	PCM61P	1399		1
324001006	UPD74HCU04GS-E2	1399	SOP	2
324001009	UPD74HC138GS-E2	1399	SOP	1
324001015	UPC4570G2-E2	1399	SOP	1
324001016	UPC4574G2-E2	1399	SOP	1
324001017	UPC74H00GS-E2	1399	SOP	1
324004001	HD14053BFPER	1399	SOP	2
324009002	NJM5532M-T1	1399	SOP	2
324011004	M5216FP-73A	1399	SOP	1
324011007	M51951BML-300	1399	SOP	1
PHOTO COUPLER				
330001400	PC-910K	1399		1
CRYSTALS				
335005500	HC-49/U 32MHz	1399		1
335006500	AT-49 24.576MHz	1399		1
SEMI FIXED VRs				
350002210	RH0615C13 1K	1403		2
350002410	RH0615C15 100K	1399		2
SLIDE VRs				
365008100	10KA x 2	1400		1
365008700	RS45111 10KB	1400		1
POWER SW.				
375010400	SDDGA1103A TV-5	M.PRT		1
TACT SWs				
375010000	SKHJAC003A	1400		3
375010600	SKHJGS	1400		25

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
POWER TRANSFORMER				
400012300	TC-037	M.PRT		1
COIL				
402002200	4312 020 36642	1403		2
FERRITE BEADS				
402002700	BL02RN1-R62	1403		3
402003600	BL03RN2-R62	1399		18
SB COIL				
402003900	SBT-0260	1399		16
SPEAKERS				
410003200	FF102-94 (LARGE)	M.PRT		2
410003300	FT50-L5 (SMALL)	M.PRT		2
KEYBOARD (ASSY)				
420003801	AE-88	M.PRT		1
KEYs				
422006500	C	M.PRT		---
422006501	D	M.PRT		---
422006502	E	M.PRT		---
422006503	F	M.PRT		---
422006504	G	M.PRT		---
422006505	A	M.PRT		---
422006506	B	M.PRT		---
422006507	LOW-A	M.PRT		---
422006508	HI-C	M.PRT		---
422006509	BLK	M.PRT		---
KEY SPRING				
422006510	VC79510	M.PRT		---

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
ISOLATION SPACER (FOR KEY CONTACT)				
422006802	FOR AE-88	M. PRT		---
KEY CONTACT RUBBER				
422006806	FOR AE-88	M. PRT		---
PHONE JACK				
454005600	YKB21-5006	1398		1
PIN JACK				
454006500	JPJ0730-01-500	1399		1
DIN JACK				
454007700	VF64730	1399		1
FUSES				
464002500	125V 3.15A	M. PRT	100JP	1
			117EX	1
			117CN	1
			117US	1
464062201	250V T1.6A	M. PRT	240AU	1
			240GE	1
			220SE	1
			220GE	1
			240UK	1
			220FR	1
			220SC	1
			220WG	1
			240AF	1
CONNECTORS				
471031200	B12B-XHA	1399		1
471031600	B16B-XHA	1399		1
471050201	B2P3-VH	1403		2
471050800	B8P-VH	1403		1
471051200	B12P-XL	1403		1
471060300	B3B-EH	1403		10
471060500	B5B-EH	1400		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
471061000	B10B-EH	1403		1
471061300	B13B-EH	1399		1
471061400	B14B-EH	1400		1
471070200	B2B-PH	1399		1
471070400	B4B-PH	1399		2
471070500	B5B-PH	1399		1
471071400	B14B-PH	1399		1
474015000	WF-21 1-102NA (2P)	1403		1
474015100	WF-22 1-103NA (3P)	1403		1
HARNESSES				
475001389	HNS-1389	M. PRT		1
475001390	HNS-1390	M. PRT		1
475001392	HNS-1392	M. PRT		1
475001393	HNS-1393 BOARD IN	1398		1
475001394	HNS-1394 BOARD IN	1400		1
475001397	HNS-1397 BOARD IN	1400		1
475001398	HNS-1398	M. PRT		1
475001399	HNS-1399	M. PRT		1
475001465	HNS-1465 BOARD IN	1404		3
IC SOCKET				
480001324	DICF-32CS-E 32P	1399		1
FUSE HOLDER				
515002300	S-N5057 #01	1403		2
LITHIC BATTERY				
520001700	CR2032	1399		1
DATA LINE FILTERS				
525000300	ESD-QR-25	M. PRT		1
525000500	0443-164251	M. PRT		1
HEAT SINKS				
560006400		M. PRT		1
560006600		M. PRT		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
RADIATION SHEETS				
565001100 565001200	FB-20 54 x 21 FB-20 48 x 17	M.PRT M.PRT		2 1
LED SPACER				
575014900	LS-15-10.2	1400		2
SLIDE VR KNOB				
620022500		M.PRT		2
POWER SW. KNOB				
620021600	BLK	M.PRT		1
TACT SW. KNOBS				
620022300 620022400		M.PRT M.PRT		24 4
HINGE CAP				
629010907		M.PRT		2
MUSIC STAND PLATE				
630012700		M.PRT		1
KEY COVER				
630012800		M.PRT		1
SHIELD SHEET				
630013600		M.PRT		1
CONNECTOR PLATE				
640098400	NO.2	M.PRT		1
FRONT PANEL				
641012102	NO.3	M.PRT		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
KEY COVER PANELS				
641012200 641012300	A B	M.PRT M.PRT		1 1
KEY BLOCK CHASSISES				
641012600 641012601	L R	M.PRT M.PRT		1 1
POWER TRANSFORMER CASE				
641012700		M.PRT		1
METAL FITTINGS OF STAND				
641013000 641013001	L R	M.PRT M.PRT		1 1
SHIELD CHASSIS				
641013901		M.PRT		1
REAR GRILL				
641014000		M.PRT		1
FRONT GRILL				
641014200	NO.2	M.PRT		1
TOP PANEL				
641014500	NO.2	M.PRT		1
FRONT BAR				
641014800		M.PRT		1
MUSIC STAND HINGE				
641014900		M.PRT		2

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
HINGE				
641015000		M. PRT		4
REAR ANGLES				
641015100	NO. 2 L	M. PRT		1
641015101	NO. 2 R	M. PRT		1
SPEAKER CHASSIS				
641015200		M. PRT		2
HEAT SINK ANGLES				
641015300	L	M. PRT		1
641015301	R	M. PRT		1
SHAFT ANGLE				
641015400		M. PRT		3
SIDE CHASSISES				
641015500	L	M. PRT		1
641015501	R	M. PRT		1
KEY COVER SHAFT				
641016500		M. PRT		1
BUSHING PLATE				
641016600		M. PRT		1
RADIATION COVER				
641016700		M. PRT		1
KEY COVER STOPPER				
641016800		M. PRT		2

PARTS CODE	PARTS NAME SPECIFICATIONS	P. C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
BOTTOM PLATE				
645013300		M. PRT		1
SIDE PLATES				
646034600	L	M. PRT		1
646034601	R	M. PRT		1
GUIDES				
646034900	L	M. PRT		1
646034901	R	M. PRT		1
KEY BLOCKS				
646035000	L	M. PRT		1
646035001	R	M. PRT		1
SHAFT COLLAR				
646035300		M. PRT		3
MUSIC STAND BOTTOM PLATE				
646035700		M. PRT		1
RACKS				
646035800	L	M. PRT		1
646035801	R	M. PRT		1
GEAR				
646035900		M. PRT		2
KEY COVER SIDE ROLLER				
646036000		M. PRT		2
REFLECTORS				
646036400	NO. 1	M. PRT		2
646036500	NO. 2 L	M. PRT		1
646036501	NO. 2 R	M. PRT		1

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	Q'TY
MUSIC STOPPER				
646036600	A	M.PRT		1
SLIDE VR FRAME				
646037100		M.PRT		2
BATTERY HOLDER				
649007400		1399		1

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

ADVARSEL!

Lithiumbatteri – Eksplosionsfare ved fejlagtig handtering.
Udskiftning má kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverand ø ren.

ADVERSEL

Lithiumbatteri – Eksplosjonsfare.
Ved utskifting benyttes kun batteri som anbefalt av apparatfabrikanten.
Brukt batteri returneres apparatleverand ø ren.

VARNING

Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens instruktion.

CAUTION

Danger of explosion if battery is incorrectly replaced . Replace only with the same or equivalent type recommended by the equipment manufacturer .
Discard used batteries according to manufacturer 's instructions.

KORG

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